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Quality Assurance across National Boundaries: National Context and International Developments

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Classroom Instruction: Its Modes and Varieties in Futuristic Schools

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India's Development as a Knowledge Society

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Quality Assurance across National Boundaries: National Context and International Developments

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Part IV

International Approach to Quality Assurance

There is an urgent need for the national QAAs to work together in areas of common interest and concern and it requires a basis of trust in the quality of QAAs themselves. As a result, there are discussions going on about establishing mechanisms to assure the reliability of the quality assurance agencies. Any quality assurance agency that has achieved a reasonable level of success and acceptance among the academia within the country, should explore how to become an international player. It has to stabilise and consolidate its strengths to find a place in the internationally credible quality assurance agencies. Many initiatives are going on to promote this trend, including the formation of the Global Forum, proposal for the World Quality Register (WQR) and the discussion on the International Quality Confederation. This part discusses those developments and related issues.

Capacity of any country to protect the public from all kinds of imported programmes of poor quality is becoming questionable. This calls for better mechanisms to share information about accredited institutions in each country, questionable providers, standards for review of quality in different countries, and good practices. To put a check on the unhealthy developments in transnational education, an international and sustainable policy framework for dealing with transnational providers that will also protect the interests of national governments, the traditional public higher education sector, for-profit providers, the students and the general public is needed. It calls for developing an international approach to quality assurance and accreditation.

International Approach to Quality Assurance

There is a growing agreement on the viewpoint that transnational approach to quality assurance and accreditation is needed, but there are huge differences of vision on how to achieve this and which steps have to be taken. Van Dimme Kirk (Kirk, 2002) lists four strategies to choose from. A minimal strategy is to improve communication and exchange among national quality assurance agencies of the various countries. A second strategy is to develop a soft validation and approval procedure for existing quality assurance systems. A third strategy could be the accreditation of accrediting agencies on an international scale. A fourth strategy is the development of a real international accreditation agency or an international regulatory framework.

The need for strengthening the first strategy– information exchange–

has been felt strongly by the agencies that have international activities, and many agencies and networks are active in facilitating this development. It is reasonable to expect that this will, in the long run, lead to international benchmarking of quality, standards and methodologies and pave way to the gradual mutual recognition of agencies and their assessment outcomes.

The second strategy will result in more reliable and concrete outcomes. International associations, agencies and networks such as IAUP, UNESCO and INQAAHE are collectively working on establishing a clearinghouse of trustworthy quality assurance and accreditation systems, based on mutually accepted standards and criteria. This is discussed in detail in the later part of this paper. This strategy seems to be very promising and workable.

The third strategy seems to be unrealistic for the moment since the governments and the quality assurance agencies may not be willing to be subjected to an assessment by a super power and will view the international structure that would coordinate the 'accreditation of accrediting agencies' as another power centre. There may also be fears that this will lead to a very bureaucratic, costly apparatus beyond the control of all the national governments, quality assurance agencies and the higher education institutions. The countries that are in the initial stages of establishing their quality assurance agencies and the nations that are still building the higher education system will not be comfortable with the concept of 'accreditation of the quality assurance agency framework'. The fourth strategy–international accreditation agency or the regulatory framework–will also experience resistance due to the reasons listed for the third strategy.

If the emphasis is on cooperation instead of regulation and if the framework is only an "international framework" with a facilitating function, the acceptability will improve.

Regulation vs Cooperation

The International Regulatory Framework (IRF) for quality assurance has certain inherent limitations. The main constraint would be the imbalance seen in the total number of providers and receivers of transnational education and consequently the regulation that needs to be employed at the provider's end will have very limited scope. For example, only Australia, New Zealand and Japan in the Asia-Pacific region and a few well known Anglophonic countries like the USA, the UK, and Canada from the rest of the world are the main providers to the entire world. It is so because of the increasing recognition of English as *lingua franca* for all transactions world over. The major importers of education in the Asia-Pacific region are Japan, India, Indonesia, Malaysia, Taiwan, Korea and China. The major exporters to this region are the USA, France, Germany, England, Australia and Canada, with the USA leading as a major provider. Nearly 58% of the US trade in education is with these Asia-Pacific countries. A common international regulatory agency cannot have much to do except to carry out the watchdog function over some of the unscrupulous institutions from the providing countries that try to sell sub-standard education to others.

Low volume transnational activity in most of the receiving countries will be another problem that will deter any substantial role to IRF in regulating the provisions. If one looks at the annual Global Public Expenditure on Higher Education which is more than 1000 billion along with the private supplement of at least 600 billion US$, the current level of transnational education as trade at about 40 billion is not very insignificant indeed. In fact even in this 40 billion trade, around 70% is accounted for by the presence of overseas students studying in the developed countries. The mobility of students for studies abroad is an age-old phenomenon. If one makes correction to this and compute only the amount involved in the international trade through the other modes, it will not be more than 10 billion US$ which is not substantial, as compared to more than 1600 billions spent annually, to warrant any serious attention.

More than anything else, the International Regulatory Framework should not create any tension between the emerging National Quality Assurance Systems in the region. China, for example, has a dramatically growing private sector with more than 500 private post secondary institutions, most of which are neither accredited, nor formally approved by the government. There are also around 1000 *min ban* (people run) private institutions that offer vocational education, and do not award bachelor's degrees and only around 100 of them have been accredited by the government. A new law regulating this sector will soon be implemented. However, it is evident that a new regulatory national framework is still evolving. It is true in Vietnam, Cambodia and other central Asian nations that were formerly part of the Soviet Union. However, the redeeming development is the effort to establish national quality assurance bodies in all these countries, though the process is not yet complete. Among the major importers of the Asia-Pacific region, Japan, India, Indonesia, Malaysia, Philippines and Hong Kong have well developed national quality assurance mechanisms. In Korea, quality assurance of the education is ensured by the Korean Council of Universities, while in China, they are looked after by the existing governmental regulatory bodies. The national quality assurance mechanisms in the countries like Cambodia, Vietnam and Sri Lanka are at various stages of development and are yet to be operationalized. These bodies have to be firmed up first in their structure and operation so as to be comparable with those of the other countries.

The magnitude of cost and effort needed to sustain such a global regulatory mechanism will be another factor that would go against its formation. The viable option is through the co-operation among NQAAs with the collective strategy based on trustworthiness of the NQAAs and well formulated code of good practices. Although establishing a single international accreditation agency or an international regulatory framework faces resistance, there are already multiple quality assurance agencies that act internationally and some of them have been noted in the earlier parts of this paper.

There are also accrediting agencies that primarily focus on the national higher education institutions with an interest in extending their operations internationally. For such quality assurance agencies that extend their operations beyond their national borders, cooperation and collaboration with interested parties in the second country is a major challenge. The Council on Higher Education Accreditation (CHEA) has developed a code of practice to facilitate this cooperation. Council on Higher Education Accreditation is a private US organisation of degree granting colleges and universities and accrediting organisations that coordinates accreditation activity. It has developed two principles for the accreditors of the USA who undertake accreditation of non-US institutions and programmes at an international level. They are as follows:

Principle 1: Considerations and Actions for US Accreditors when determining to undertake Accreditation of non-US Institutions and Programmes in Another Country.

US Accreditors will:

- Assure that they have the organizational capacity to undertake an international review (e.g., language, trained staff and evaluators, budget, experience, basic information about the country);
- Promulgate a clear statement of the scope of the accreditation and the use of US accredited status by an institution or programme in another country, especially with regard to transfer of credit and degree and qualifications equivalency;
- Assure clear understanding of the relationship of the US review to any international agreements that address accreditation and quality assurance;
- Clarify the relationship of international review activity to the priorities of the accrediting organisation;
- Communicate with other US accreditors about international review activity.

Principle 2: Expectations for Conduct of US Accreditation Reviews of non-US Institutions and Programmes in Another Country.

US Accreditors will:

- Inform, consult and cooperate with national quality assurance agencies in countries where reviews are undertaken and seek information and guidance from these agencies;
- Communicate with Chancellors, Presidents and Rectors and other college and university officials at institutions where reviews are undertaken;
- Assure that the US staff and evaluators are adequately informed about higher education and quality assurance in the countries in which they are conducting reviews to preclude the appearance of cultural insensitivity;
- Communicate fully and clearly about costs and currencies associated with a review.

While the strategies with the international dimension mentioned above and the international regulatory approaches under category three and four mentioned earlier have limited application value in the contemporary context, they may increase in the years to come. It is also evident that the first two strategies that are based on the cooperation among quality assurance agencies enjoy more acceptance among the quality assurance agencies in general. However, the success of the first two strategies lies in the mutual trust that could be promoted among the quality assurance agencies in handling issues of transnational provisions. The need to promote trust among the quality assurance agencies has prompted several different organisations to hold discussions on the international dimension of quality issues of which the initiatives by UNESCO, IAUP, INQAAHE and CHEA have resulted in tangible outcomes.

UNESCO and the Global Forum

UNESCO has always been proactive in such international discussions. An Expert Meeting on the Impact of Globalisation on Quality Assurance, Accreditation and the Recognition of Qualifications in Higher Education was convened by UNESCO in September 2001 to explore the international dimensions of quality assurance and examine the feasibility of establishing an international forum for dialogue among the different stakeholders. The participants of the meeting reached consensus that a Global Forum should be established under the auspices of UNESCO to bring together different networks dealing with international aspects of quality assurance.

The mission of the Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications, established under the auspices of UNESCO in 2002, is to link existing frameworks dealing with international issues of Quality Assurance, Accreditation and the Recognition of Qualifications and provide a platform for dialogue between them. The Global Forum is working collectively to evolve a code as a truly international policy framework for dealing with private and transnational providers, reconciling the interests of national governments, the traditional public higher education sector, for-profit providers and the needs of students and the general public interest. The code may be adopted through an International Accord. The audience targeted by the Global Forum are the different stakeholders of higher education: governments, higher education institutions, students and their families, teachers, business and industry, public and private sectors of the economy, parliaments, the media, the community, professional associations, etc.

IAUP and the Worldwide Quality Register

In 1999, the International Association of University Presidents (IAUP) initiated discussions on 'Internationalisation and Quality Assurance: Towards Worldwide Accreditation?' which dealt, *inter alia,* with international developments in quality assurance in higher education and worldwide accreditation for international higher education. To carry forward the discussions, it established the Commission on Global Accreditation in 2001which in turn convened a working group. The working group consisting of members of IAUP, INQAAHE, UNESCO and experts in international quality assurance from various other organizations has recommended the establishment of a Worldwide Quality Register (WQR), to identify reputable quality assurance agencies (QAAs) around the world. There have been parallel developments in INQAAHE also.

INQAAHE and the Quality Mark

At the 6th INQAAHE conference in Chile, the concept of a quality label for EQA agencies was raised. It was opined that EQA agencies have generally not felt the necessity to assess their own functioning, principally because so many of them are mandated by a government. Nonetheless, it is the responsibility of all agencies to ask themselves the question: How good are we at the job we are supposed to be doing? Consequent to this discussion, INQAAHE set up a working group to evolve a set of Principles of Good Practice for EQA agencies. The focus of the code of practice would be to assist member (and other) agencies to answer the question 'how good are we?' and to give them guidance on how to proceed in order to improve. The working group has developed a discussion paper with the aim of establishing the Principles of Good Practice at the Dublin Conference in April 2003. The principles would recognise that different EQAs have different purposes, which include (but are not restricted to) accreditation, assessment and audit. The principles would not lead to the dominance of one specific view or approach, but promote good practices, while preventing bad quality. The draft principles of good practice are as below.

Principles of Good Practice

1. The Mission Statement

The EQA agency has an explicit mission statement or set of objectives. The statement makes clear that EQA is a major activity of the agency, and that there exists a systematic approach to achieving the mission or objectives. There is evidence that the mission statement is translated into a clear policy and management plan.

2. Decision-making

The EQA agency carries out its assessments in relation both to the institution's own self-analysis and to external references. It respects institutional integrity and autonomy, while being supportive of the institution. The agency demonstrates independent, impartial, rigorous, thorough, fair and consistent decision-making. There is evidence that no party has untoward influence on the outcomes of the decisions. Independence of the evaluators is guaranteed.

The agency makes consistent decisions, even if the judgements are formed by different groups, panels, teams or committees. If the external evaluation leads to an accreditation, the accreditation framework and standards are public and the criteria for accreditation clearly formulated. The rules leading to an accreditation decision are transparent, public and guarantee an equal treatment. If relevant, the agency distinguishes between accreditation (threshold) and extension (improvement).

3. Resources

The EQA agency has adequate and credible resources, both human and financial, to be able to organise and run the process of external evaluation, with appropriate provision for development. The agency is economical and efficient.

4. Documentation

The EQA agency has public guidelines for self-evaluation and external evaluation, and public manuals explaining its criteria and decision-making processes. The guidelines for self-evaluation indicate to the institutions of higher education what is expected of the self-evaluation, distinguishing clearly between recommendations and requirements. The guidelines for external evaluation set out the matters covered in these Principles, such as decision, criteria and methods, reporting format, etc. The manual for EQA assures clearly that each institution or part of it (e.g. subject area) will be evaluated in an equivalent way, even if the external review panels are different.

5. The External Committee

Where the EQA agency uses external panels, teams or committees, the system clearly ensures that:

- The composition of the committee is adequate
- There are no conflicts of interest
- The committee is instructed clearly about the task
- The committee acts independently.

6. The Public Face

In its work, the EQA agency includes, informs and responds to the public. This includes making public and explicit its policies, procedures and criteria.

The agency also demonstrates public accountability by reporting openly on its institutional review decisions, making the outcomes of the evaluation public in an appropriate way. The content of the public report may differ depending on the cultural context and will also depend on the requirements set for accountability.

7. System of Appeal

The EQA agency provides a method for appeals against its decisions.

8. Quality Assurance of the EQA Agency

The EQA agency has a system for quality assurance of its own activities, emphasising flexibility (in response to the changing nature of higher education) and quality improvements. The agency carries out self-review, based on data collection and analysis, including consideration of its own effects and value.

9. Collaboration with other Agencies

As far as possible, the EQA agency collaborates with other EQAs.

10. The Relation between the EQA Agency and the Higher Education Institutions

The EQA Agency:

- Recognises that quality and quality assurance are primarily the responsibility of the higher education institutions themselves:
- Respects autonomy of the institutions;
- Is checking the standards not prescribing;
- Aims to contribute to both quality improvement and accountability;

The EQA agency expects the institutions to:

- Plan with respect to their mission;
- Have indicators relating to the plans;
- Assess standards;
- Provide public information;
- Carry out self-review and quality improvement.

INQAAHE's Position on IAUP's Proposal

In a move to work collaboratively, the Board of INQAAHE met with representatives of the IAUP in May 2002. The representatives of IAUP presented a proposal entitled 'Towards a Worldwide Quality Register for Quality Assurance and Accreditation Agencies'. The document proposed that IAUP, INQAAHE and UNESCO would form a consortium under whose authority a world quality register would be established. The document gave the rationale for the Register, and proposed a structure and processes. It also set out an application review and decision making procedures and suggested external uses of the World Quality Register. It also outlined administrative and financial aspects.

INQAAHE has welcomed the proposal for the establishment of a World Quality Register. It recognises the support and voluntary co-operation of the agencies, the governments, UNESCO and the working sub-networks and regional networks in the development of this proposal. INQAAHE has also suggested that the world quality register may be built on a structure of mutual recognition of quality agencies on a regional basis. INQAAHE will establish essential and elective criteria for a quality assurance agency in higher education. The essential criteria will represent the minimum standards and procedures required for the recognition of judgements of the agency by other quality assurance agencies and by stakeholders generally. The elective criteria will represent additional standards and procedures which are regarded as good practice by the international quality assurance agencies in higher education community.

The position paper of INQAAHE suggests that a Quality Mark could be introduced to indicate that the agency has reached minimum standards and also indicate which elective standards have been reached. To establish these criteria, it is proposed that a committee consisting of the President, Secretary, one other representative of the INQAAHE Board, and one representative from each of the IAUP and EURASHE, would be established. A similar group could carry out the ongoing verification process that would be necessary once such a system were in place.

It is proposed that funding would be sought from UNESCO for the development of this project. In developing this project, INQAAHE will take into account existing projects, such as mutual recognition projects in MERCOSUR and the Nordic countries. Further consultation on this will take place among the member agencies of INQAAHE with the intention of putting a proposal to the General Assembly of INQAAHE for adoption at its meeting in April 2003. If the proposal is adopted, it is intended that the project will be completed before the INQAAHE General Assembly of 2005 and also before the triennial meeting of IAUP in 2005.

Worldwide Quality Register

Inclusion of an agency in the worldwide quality register guarantees that this agency meets agreed standards for trustworthy quality assurance, such as a clear commitment to develop academic quality in the institutions and programs evaluated by it, fair and appropriate quality assessment procedures, well developed and publicly available protocols, etc. Students, faculty, programs, institutions and the general public can therefore have reasonable confidence in the academic quality of institutions and programs positively reviewed or accredited by registered quality assurance agencies.

The worldwide quality register addresses quality assurance and accreditation agencies that primarily deal with the teaching and learning activities and functions of higher education programs and institutions. However, contemporary quality education at post-secondary level is closely linked to scientific research. Especially at postgraduate level high quality teaching and learning build on state-of-the-art knowledge and recent progress in scientific research. The worldwide quality register supports a vision of higher education in which teaching and learning on the one hand and scientific research on the other are clearly linked.

The worldwide quality register is conceived not as a discriminatory mechanism, but as an inclusive and developmental framework. The agencies whose application is not reviewed positively at first instance because they do not yet fully comply with the required criteria, will be given a candidacy status. In this status these agencies will receive adequate support and assistance in developing their quality assurance capacities in order to re-apply after a given timeframe. Furthermore, the worldwide quality register will support the development of sound quality assurance in higher education worldwide, with special attention to the needs of those countries and higher education systems that have not yet fully developed quality assurance or accreditation arrangements.

WQR Framework

The range of institutions evaluated or accredited by the agency can be both public and private, national and transnational, confined to one discipline or covering many disciplines. The agency must have a minimum of two years' experience in the field of external quality assurance agencies in order to obtain the world quality register. A newer agency may be accepted into candidacy status if it meets the other criteria. The following standards are intended to be applied in their entirety in the spirit of their intent and goals; compliance with each individual standard is not required.

- The agency functions autonomously from the institutions or programmes that it reviews.
- The agency addresses primarily the educational function of higher education institutions.
- Primary activities of the agency can be defined as quality evaluation, review, audit, assessment or accreditation.
- Those activities are executed on a regular basis and in a systematic way.
- There is evidence of reliance on the agency by the academic community (including students), by employers, by government, or by others.

Agencies must demonstrate their commitment to advancing academic quality in the institutions evaluated or accredited. Fostering high academic quality should be clearly included in the institutional mission of the agency. The quality assurance and accreditation activities of the agency can include the functions of improvement and/or accountability. With respect to the improvement function, the agency should stimulate, encourage or provoke purposeful change towards improvement of programmes and their outcomes. The quality assurance or accreditation activities should also foster and evaluate internal quality assurance, as well as the culture of assessment within the institutions or programmes. With respect to the accountability function, the agency must demonstrate that it is responsible to the public, for example by publishing the final judgment that resulted from its evaluation or accreditation.

The agency that reviews the institutions or programmes must provide reliable information about academic quality to students, stakeholders, the public authorities and the general public. Agencies should require that each institution or program that they review fulfils its own mission and that its educational quality meets external community expectations for higher education within the relevant field. This may be demonstrated by reference to external benchmarks, by the judgment of visiting peers, or otherwise.

Implications to QAAs

Worldwide quality register expects that the external assessment by the quality assurance agency should be based on a combination of self-evaluation and peer review. The protocol of the agency should provide for autonomy of all processes and committees, even if the agency itself is linked to the institutional higher education sector, the professions, the state, or other stakeholders. The quality assessment processes and decisions must be appropriate, fair, and consistent. The agency must have publicly available protocols or manuals that describe in a transparent way the procedures and standards used in quality assessment processes. Most of the quality assurance agencies are well in line with these expectations.

The worldwide quality register also expects that the protocols or manuals of the quality assurance agency should describe the minimum standards used in its quality assessment process, and the way in which these standards comply with external points of reference. It should also describe how its standards respect each institution's mission. It also requires that the nature of the final judgment and more specifically, the meaning of statements such as 'insufficient', 'sufficient' and 'good' must be clarified. In these areas, the procedures of most of the quality assurance agencies may need more fine-tuning in terms of firming up the benchmarks and descriptors of quality to gain international acceptability.

The expectation that the agency has specific policies for assessing itself with a continuous reassessment of quality assurance and accreditation practices and for the development of the professional expertise of the agency in the field of quality assurance, also needs to be understood in the international context. In general, the quality assurance agencies have been assessing themselves as they evolve their procedures but many of them might not have subjected themselves to assessment by an external body. Similarly, with field experience they might be growing in professional expertise but policy specifications on professional development may need to be firmed up. If worldwide quality register recommends an external review and policy on professional development, the quality assurance agencies may have to evolve appropriate policies and procedures. The surety about the internal and external consequences of quality assurance agencies actions and decisions for institutions accredited, which is seen as an evidence of a sound EQA mechanism by worldwide quality register, is also still a developing area in many countries. The quality assurance agencies, especially in developing countries where there is tension between increasing access to higher education and quality education, have to work on establishing the definiteness of the consequences of the accreditation outcomes.

While the worldwide quality register framework has a regulatory flavour, the Council on Higher Education Accreditation proposes an international confederation as another alternative.

CHEA and the Quality Confederation

The Quality Confederation proposed by Council on Higher Education Accreditation would be composed of national quality assurance agencies and would address higher education and quality review in an international setting. It would explore shared values, establish useful and authoritative sources of information and develop quality review agreements where needed. The Quality Confederation would not require regulatory international standards; an individual country's obligation and prerogative of defining its concept of quality would remain intact. Decisions about comparability of curricula, degrees, and academic standards would be made at a national level.

In a paper outlining the international confederation, the President of council on higher education accreditation, Dr.Judith Eaton (2002) lists that this 'Quality Confederation' would provide Service, Communication and Information and elaborates them as follows:

Service: Quality Confederation would assist nations to maintain themselves as primary sources of responsibility for higher education quality in their countries. At the same time, the confederation would be a vehicle to establish working relationships among countries to expand higher education and improve quality.

Communication: Quality Confederation would work with other organisations and provide an ongoing forum for exchange of ideas especially about the core value issues that confront higher education and higher education quality worldwide. This might include the difficult questions of the intellectual foundation on which to base the development and enhancement of higher education in various countries, general education and the liberal arts, and higher education in the service of the public good. This forum would address fundamental principles of higher education quality as well as sound practices in quality review.

Information: Quality Confederation would work with interested quality review organisations to establish and maintain an accurate international database of quality courses, programs, institutions and degrees as well as other information needed by individual countries to function effectively in an international environment.

The Quality Confederation cannot be the answer to all the issues of quality assurance that need an international approach. Whether Quality Confederation will result in a large number of individual bilateral national agreements about higher education quality and the confusions it might create needs to be explored. There is also the danger of sidestepping the issue of international quality standards that may be needed in a global world. The ability of Quality Confederation to protect against dubious providers of higher education ('diploma mills') and dubious providers of higher education quality review ('accreditation mills') is also not clear. It is also not clear as to how it is distinctly different from the worldwide quality register and the related efforts of other international bodies like INQAAHE.

In sum, largely due to the developments in transnational education, there is growing need to seek more information about, and discussion of, issues and concerns regarding quality assurance internationally. Conferences and seminars are held for exchange of information about quality assurance practices and challenges in different parts of the world. There is a general awareness of the need to have a system of international recognition of quality agencies and options for cooperation across national boundaries is being explored. There is a need to work together, to be more international in viewing these issues, and to work for mutually acceptable standards with increased cooperative relationships. The Global Forum, the World Quality Register and Quality Confederation are certainly the right steps forward to realize these objectives.

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Classroom Instruction: Its Modes and Varieties in Futuristic Schools

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The concept of managing teaching-learning of IK Davies involves four concepts of teaching—planning, organizing, leading and controlling. In these steps the main emphasis has been given on objective, strategies of teaching and evaluation techniques. But a teacher concerns with teaching concepts, principles, skills and problem-solving. These are the means to achieve the objectives and to evaluate the student's performance. Knowledge of the above concepts and their understanding are very essential to a teacher for developing effective instruction.

Robert Glaser (1962) developed a teaching model that divides teaching strategies into four parts: (i) Instructional Objective, (ii) Entering Behaviour, (iii) Instructional Procedures, and (iv) Performance Assessment. The instructional procedures provide the awareness of dealing with teaching of skills, language, concepts, principles and problem solving.

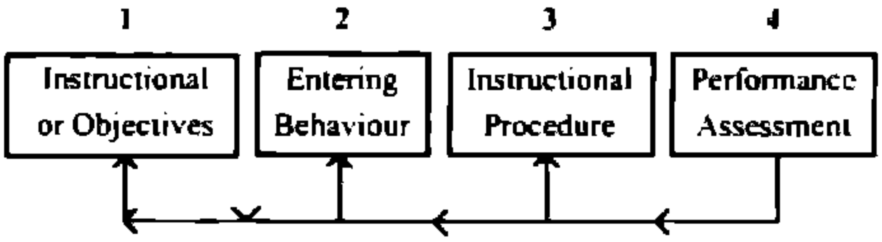


Fig. 1 : Robert Glasar Basic Model of Teaching

Meaning and Definition of Classroom Instructional Strategy

Instructional strategies describe the teaching process; most of the decision a teacher takes on the basis of these procedures. The management of teaching of skills, language, concepts, principles and problem solving result in those changes in the student-behaviour which we call learning or level of performance.

"Instructional Strategy implies the components of skill and knowledge. They are clearly analysed and defined and instructions are arranged to the component not already possessed by the students and instructions are revised until objectives are attained".

Glaser (1964), Tiedmann (1964) and Anderson (1964) have defined instructional procedure as "A process that includes specifying objectives, managing of teaching of skills, language, concepts, principles and problem-solving, and then trying and revising material and techniques that usually result in effective instruction".

Need of Effective Classroom Instructional Strategy

An effective instructional strategy is required to develop the following components :

- ***Preparation of Objectives:*** The first requirement of an effective instructional procedure is to identify objectives and to write them down in behavioral terms. The instructional decisions are based on these objectives—cognitive, affective and psychomotor.
- ***Task Analysis:*** The second requirement is to analyse the skills and knowledge that a student requires to achieve the objectives.
- ***Entering Behaviour:*** This step is to determine the prerequisites in terms of skills and knowledge of the students.
- ***Content of Teaching:*** This is a crucial aspect of instructional procedure. In this step instructional materials and techniques for teaching the concepts, principles, problem-solving skills and language are identified in the task analysis.
- ***Procedure for Teaching:*** Concepts, principles, problem-solving skills and language are the components of teaching. Different steps are required for teaching these components.
- ***Evaluation of Remedial Teaching:*** After teaching, the student's performance is evaluated to determine that all students have attained each objective.
- ***Diagnosis and Remedial Teaching:*** The purpose of evaluation is not only to determine the level of performance, but also to diagnose the causes of the student's poor performance. This provides the basis for preparing remedial instruction to re-teach the students.

Components of Classroom Instructional Strategies

Several components determine the proper selection or design of instructional procedures. It guides us how to teach skills, concepts, principles and problem solving by employing, methods, techniques, maxims and teaching skills for generating conducive learning environment for the students in the classroom interaction. The Instructional procedure includes the following components:

- Basic learning conditions and learning types
- Teaching and learning of skills
- Teaching of verbal learning and use of verbal learning
- Teaching and learning of concepts and principles
- Problem-solving, creativity and discovery learning
- Teaching and learning situations are generated by appropriate methods, techniques, devices, maxims and aids of teaching.

Purpose of Classroom Instructional Strategies

Instructional procedure appears to occupy a position somewhere between the teacher and the students. The major purpose of instructional procedure is to implement the desirable changes in the learner's behaviour. Three types of learner behaviours are considered in the teaching process, but instructional procedures are developed for two types of changes in the behaviour :

- Cognitive Behaviour or Objectives : The cognitive objectives are attained by teaching the following phenomenon.
- Psychomotor skills or Objectives: Psychomotor objectives are achieved by emphasizing the following abilities.

Basic Conditions of Learning

Learning is a permanent change in behavioural tendency and is the result of reinforced practice. The reinforced practice is the cause of learning.

Gates has defined this team learning. Learning is the modification of behaviour through experiences and training, but not through motivation, fatigue and maturation. Important basic conditions are contiguity, practice, reinforcement, discrimination and generalization. These conditions are important in various learning types. Robert Gagne has advocated eight learning conditions as discussed. A drier description has been given about these basic conditions of learning.

Establishing Classroom Climate

The classroom climate is the general tone of a class. It reflects the totality of all the actions, relationships, and physical aspects of the environment as perceived by the students and the teacher. Although it is probably the most important of the teacher's immediate classroom concerns, it is hardest to define exactly, and therefore is usually expressed in subjective terms conveying an impressionistic feeling about the class as friendly, business-like, chaotic, regimented, exciting, secure, dull, or permissive.

Factors that Influence the Classroom Climate

Most teachers today say that they prefer an informal and friendly classroom climate, one that is orderly and courteous, one that creates voluntary student interest, involvement and work without reliance on force, harsh discipline and rigid requirements. Often, however, a teacher's attempts to create such a climate are frustrated by his failure to understand the effects of his methods and rationale on students. For example, teachers are often unaware of how much they talk and how little they listen. Students observing this behavior and thinking that learning means listening, are unlikely to value or understand the suggestion that they accept more responsibility for the class or that they become more actively involved. By structuring the physical environment and course of study, by the way he acts towards students, and by his influence on the psychological environment, the teacher determines the classroom climate, whether he does so purposefully or inadvertently.

Ned A Flanders assumes a teacher-dominated classroom and stresses teacher talk more than student talk, but provides a useful frame for looking at the verbal behavior in many classrooms. The Glanders system codes all classroom talk according to the following scale :

Teacher Talk	Indirect Influence	1. Accepts the feeling of the students
		2. Praises or encourages
		3. Accepts or uses ideas of the students
	Direct Influence	4. Asks questions
		5. Lectures
		6. Gives directions
		7. Critizes students behaviour or justifies teacher's authority
Student Talk		8. Student talk : response to teacher
		9. Student talk : initiated by student
Silence		10. *Silence or confusion*

Principles of Planning for Classroom Instruction

Beginning teachers and student teachers are often concerned with the very practical planning problems: what do I do on the first day and in the first week? What do I do if I run out of lesson material before the period ends? How much time should I allow for the study of 'Macbeth'? How can I make the dramas interesting? How can I get through 'Great Expectations' when half the class reads at a third - grade level and the other half refuses to do any work? Still, some principles can be followed, if practical. Obviously, it does little good to know that literature should be appropriate to the student if the teacher must teach a conspicuously inappropriate selection. Some flexibility through those planning variables over which he does have control. Teachers can use the following seven principles as a planning guide and their criteria as the structure for evaluating those plans which have not yet been tested in the classroom. They are the following points which are considered for planning of the classroom instruction.

- Value
- Appropriateness
- Fexebility
- Activity and Involvement
- Evaluation and Feedback
- Advance Planning
- Variables to Consider.

Systematic Planning or Modelistic Approach for Classroom

The teacher will have to decide what materials to take to tomorrow's class, how to arrange the chairs, what to do first and what questions to ask. He might arrive at such decisions through a sequence such as the following:

(i) He might determine appropriate the objectives for a particular class,

(ii) Select materials and activities which will promote his ends,

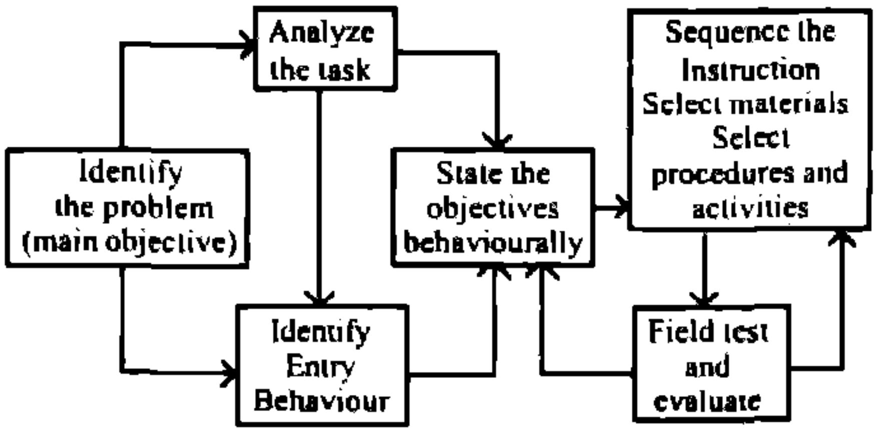
(iii) Arrange the lessons or their parts logically, and

(iv) Determine how to tell if his objectives have been met.

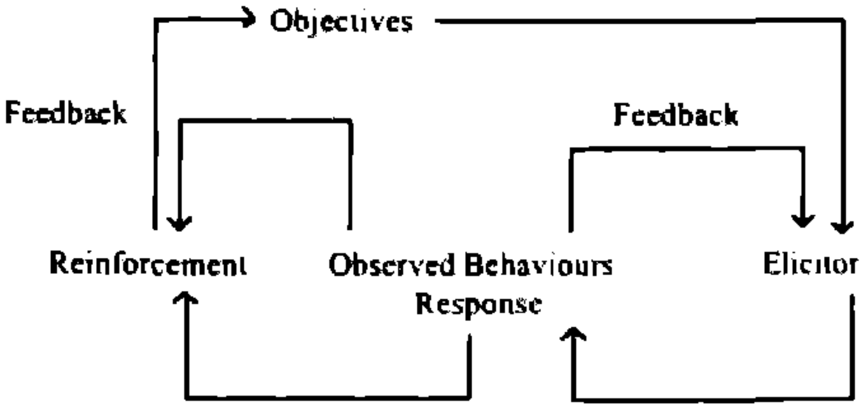
Despite the seemingly haphazard ways that teachers go about planning, at some point they do follow each of the four logical steps suggested earlier, even if they do so unconsciously. The beginning teacher may find it useful to consider each of these steps more systematically, if for no other reason than to be sure that he has, in fact, touched all the bases.

However, it is only a technique to facilitate consideration of all the facets of a complicated problem by breaking it down into manageable parts. The following model represents the approach in its simplest form:

System Approach Model

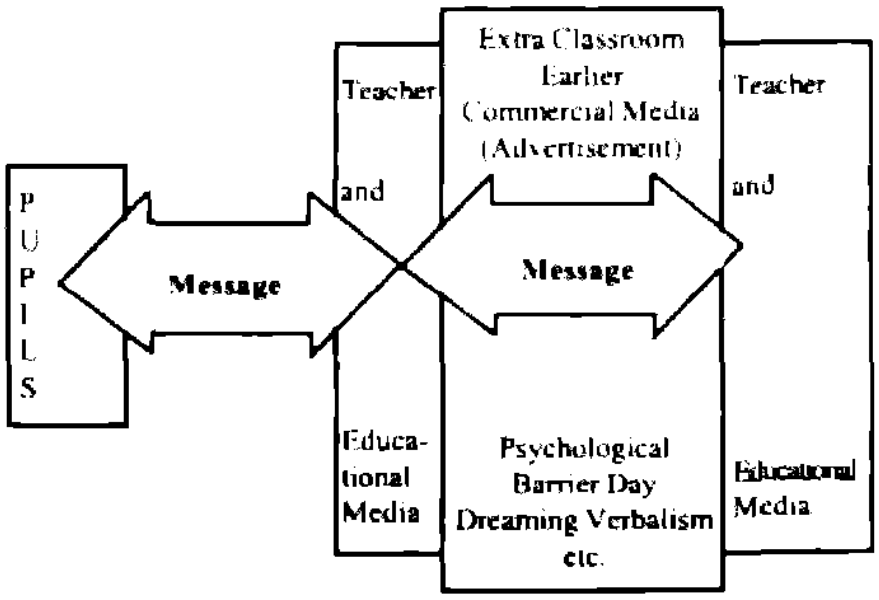

Analyze the task
Identify the problem (main objective)
State the objectives behaviourally
Sequence the Instruction Select materials Select procedures and activities
Identify Entry Behaviour
Field test and evaluate

Cybernetics Concept of Teaching : A Cycle of Instructional Process (CIP)



Multimedia Approach

It is evident from the term multi that more than two media of communication are involved in a learning package or instructional procedure. The teaching content of a subject varies in nature. Therefore, it can be best presented by employing various media of communication.


PUPILS
Message
Message
Teacher and Educational Media
Extra Classroom Earlier Commercial Media (Advertisement)
Psychological Barrier Day Dreaming Verbalism etc.
Teacher and Educational Media

Now-a-days there are so many new devices through which modern teachers can give good education to the future generation. When teachers will provide good instructional material or good strategies of teaching the output of the class will also be good. The teaching strategies are directly influenced on the achievements of the student or the learner. Modelestic approaches are basically dependent upon the new technique as well as the new process of teaching.

Integration of Media with Distance Education

Cherla Raja Mouli and G Saroja
(Dr BR Ambedkar Open University, Hyderabad)

With advancements in communication and education technologies, various audio-visual media like radio, television broadcast, audio-video cassettes, video compact disc, video text, computer aided learning, teleconferencing etc., have become important components of the learning package in distance and open learning. The enactive, iconic and symbolic characteristics of the media, with their potential for providing access can enrich the teaching-learning process and make learning an exciting experience to the learners.

Need for Integration of Media

In distance education the master 'print medium' in the form of self-learning materials is supplemented and complemented by media components in the form of radio, television broadcasts, audio-visual cassettes etc. With the use of satellite technology, the open universities are able to provide teleconferencing and computer conferencing to bring interactivity in the teaching-learning process.

Integration of media with the teaching learning process has the following advantages:

- Media has the potential to combine the symbolic communication by using sound and moving pictures. As a result, some subjects which are very difficult to teach using print media can be easily explained using media lessons combining audio-video presentations.
- Media offers the course designer a coherent and integrated teaching system.
- It provides the learner a rich, varied and coherent combination of learning stimuli.
- Integrating a variety of media into a course offers learners an opportunity to use media suitable to individual learning styles and preferences.
- Video component can be an invaluable tool for those who learn better by watching than reading.
- Audio serves them better, who prefer listening to reading; and
- In others, who learn effectively by reading and then writing, especially when the subject content requires great deal of thought and reflection; computer-mediated communication becomes a valuable tool.

Integration of media components should be planned carefully and thoughtfully to bring coherence to the teaching-learning process.

Issues in the Integration of Technology into the Learning Package

One of the key considerations of course design is to maintain and enhance student motivation, which can be achieved, to a great extent by the integration of media components into the teaching learning process.

In general terms, integration can be explained as the act of combining services into an integrated whole and making them available equally to the students. Mac Kenzie, N. (1995) has rightly pointed out that the media involved in the multimedia approach have little that is innovative about them if they are considered individually and separately. According to him, the key concept in the institutions' multi media approach is integration—a fusion of these media into one organic whole in which there are observable inter-relationships. Several observers have identified 'Integration (Benton et al - 1993) as the deciding factor, in the success or failure of the learning technology implementations. Integration of media into the learning package therefore requires careful planning and implementation. Some of the problems and issues for consideration in the integration of media are discussed here.

Convergence of the Print and other Media of Instruction

The educational philosophy of open learning emphasises the learners getting the choice about the media, whether to learn from print, audio, video, television or online education. For providing flexible learning, the system emphasises the need for convergence of open learning methods, media and classroom strategies in the teaching-learning process.

Many of the Open Universities in India support learning by the use of various media relevant to the courses offered by them. The important point to be noted is that these various media are used as parallel streams to the printed medium of instruction, and that there is a lack-of convergence between the printed course material and other media in the instructional package.

Ineffective Use of Media

When the media components are planned as supplementary material to the primary print medium of the course, there is a danger that the electronic media remaining largely unused by the learners.

Lack of Awareness

Lack of awareness in the learners about the media that are available in a particular course programme of study leads to the ineffective use of media.

Attitudes

Learners have diverse attitudes towards the use of technology. Some learners with little or no exposure to the techniques of using media develop a fear and thereby do not make any effort to use it. Some learners join the stream of distance education with the motive of earning degrees rather than acquiring skills. Such learners have a casual attitude and they pursue their learning process with whatever material is readily available to them. They do not bother to make use of the media components in the learning process.

The attitudes of the teachers, course designers towards integration of media also contribute to the extent of usage of media in the process of teaching/learning.

Access

Access of the learners to the technology or media is an important consideration in the integration of media. Access refers to the extent to which teachers and learners are in a position to use and have the capacity to use a particular media for teaching and learning. Therefore, the course planners should consider:

- The knowledge and skills necessary to use a given medium effectively; and
- The resources and costs that are involved in its production and use.

Strategies to be adopted for Integration of Media

By adopting certain strategies for integration in the course planning, design and implementation of learning package, it is possible to make effective use of the media in the teaching/learning process.

Course Planning

- The institution imparting open learning should decide the level of media integration. That is, whether to use media to supplement the printed medium or to use it as a parallel stream of instruction.
- While planning the integration of media, the needs, attitudes and capabilities of the target learners should be taken into consideration. Media choice should be made depending on the course content and the stage at which media involvement/participation is necessary for instruction.
- Ensuring that media is readily available to students when and where they can use it will enhance the learning process.

Course Design and Instruction

- Referencing the media in the print materials and course documentation is important for motivating the student in the use of media. Reference to the media materials should form an integral part of the printed course materials. Details of the audio-video presentation material relevant to each topic in the course material will enthuse the learner to approach the media.
- Integration of media can be achieved when the course teams responsible for developing a course like the course writers, editors, graphic artists, subject experts, information specialists and media personnel to work under a common platform in the course design.
- Making media supplantive for the key aspects of the course will enhance learning and promote the use of media.
- Motivate the learners to find answers in the media materials to certain important issues raised in the course material,
- While employing conventional teachers as counsellors, they should be imparted skills in the counselling with greater focus on integration of the media while providing counselling to the learners,
- Orientation to the learners regarding the use of media will enable them to overcome the fear of using technology and thereby help them to use the media effectively,

Implementation

- At the time of launching of a programme care should be taken to see that the instructional package offered to the student is in an integrated form. This will reduce the burden on tutors the students going in search of audio-visual support available to various units of the course material.
- Continuous feedback and evaluation is necessary to bring about improvements in the system.

Conclusion

Often, it is argued that the important factor that hinders the integration of media into the course is the lack of access to the various media by learners who live in remote villages and small towns. However, this argument can be ruled out in view of the spread of communication channels across the country. People in every nook and corner of our country have access to broadcasting media like radio and television. Apart from these, audio, video equipment, computers and cyber cafes have reached all over the country. Therefore, with a little extra effort and planning, media can be successfully integrated into the learning process. ❑

India's Development as a Knowledge Society

Dr K Venkatasubramanian, Member, Education, Health and Policy Research, Union Planning Commission, Government of India, New Delhi delivered the Convocation Address at the twenty-first Convocation of Dayalbagh Educational Institute, (Deemed University) Dayalbagh, Agra, on January 11, 2003. He said, "A knowledge society must be inclusive and for that inclusion to be a reality, every one must have access to participation in the decision-making process. The information and communication infrastructure provides the means for inclusivity because it allows for timely, inexpensive and broad dissemination of information from a multiplicity of sources, to the majority of people. It also allows for immediate assessment and internationalisation of the information that is provided, because of its built-in capacity for interactivity. At the moment, the capacity for interactivity, i.e. *the ability to access and exchange information is not universal*. For the principle of universality of access to be applied in a way that moves us towards a knowledge society and economy the concept of access must be expanded to include interactive and inclusive participation". Excerpts.

Our Hon. Prime Minister, Shri Atal Behari Vajpayee Ji recently said, that "A knowledge based society will enable us to leap-frog in finding new and innovative ways to meet the challenges of building a just and equitable social order and seek urgent solutions", in his inaugural address to delegates attending the ASSOCHAM summit held on 'India in the knowledge millennium'.

The five point agenda for it includes the following:

- Education for developing a learning society.
- Global networking.
- Vibrant Government-Industry-Academia interaction in policy making and implementation.
- Leveraging of existing competencies in IT, Telecom, Biotechnology, Drug Design, Financial Services, and Enterprise-wide Management.
- Economic and business strategic alliances built on capabilities and opportunities.

Such an agenda, according to our Hon. Prime Minister, will help make India a knowledge super power.

Experts have predicted a few years ago that this millennium will belong to two big super powers in this region of Asia, and India is one.

There is a lot of international awareness on the concept of knowledge society. The knowledge society is a 'work-in-progress' requiring significant investment in harnessing skills, technology and learning. Knowledge society is a society where creating, sharing and using knowledge are key factors in the prosperity and well being of its people.

Some principal features of the knowledge society include:

- Knowledge and information being major sources of creating values
- Rapid changes in technology
- Greater investment in research and development.
- Greater use of information and communication technology
- Growth of knowledge-intensive business
- Increased networking and working together
- Rising skill requirements

This contrasts to earlier societies such as the agricultural society (when agriculture was the key to survival) and industrial society (when mass production of goods generated most of the wealth).

In the emerging knowledge society, as much as, if not more than land, labour and capital, knowledge is the key to creating wealth and improving the quality of life.

Driver

The idea of the knowledge society has been spreading rapidly around the world. So much so, that it has been described as a 'Knowledge Revolution'. What are some of the key factors driving this revolution?

- Globalization of the world's economies has fuelled competition and spurred the gathering of knowledge to get ahead.
- The technologies for gaining, sharing and applying knowledge are changing rapidly; for example, the rise of computers and the Internet.
- The growing role of research, science and technology in creating knowledge to solve business, social and environmental problems.
- Knowledge tends to grow at exponential rate. Whereas the resources of the industrial society, for example fossil fuels, tended only to be used once. However, existing knowledge can be used to create new knowledge. This speeds up the rate at which knowledge is created and grows.

The Knowledge Concepts

Knowledge: A useful definition is—familiarity gained by research and experience. It can include 'know what' (knowledge about fact), 'know why' (scientific knowledge of the principles and laws of nature), 'know how' (skills or the capability to do something), 'know-who' (information about who knows what and how to do what).

Knowledge Economy: The economy at the core of a knowledge society, i.e. an economy, which revolves around creating, sharing and using knowledge and information to create wealth and improve the quality of life.

Knowledge Worker: A person who provides value by generating, sharing or applying ideas. It can equally apply to an eminent scientist, a skilled craftsman or to a receptionist with an expert knowledge of who's who in the organisation and where all the useful information is.

Knowledge Management: As knowledge becomes more valuable, there is a growing need to manage it effectively to capture its full benefit. Hence the rise of this important sub-category of general management.

The nation is on the brink of a period of profound change in our society. All that we do, all that we make, and all that we earn will be altered by new knowledge and technological change. Knowledge differs from other resources - each new discovery provides a platform for further discoveries.

There is an urgent need for a time bound project focusing on exploiting knowledge for our future prosperity and well being, and our development as a knowledge society. Rather than projecting into the future with assumptions about how today works, the project should involve constructing a vision of a most desirable future, and then identifying strategies to reach there.

The project should provide a framework for thinking about the sort of future India wants, and define the context for the Government's research, Science and Technology investments to make India a super power in the new millennium and a super knowledge society. The Government of India invests substantially in research, science and technology to generate new innovative, economic, environmental and social capacity. In this way, the Government underpins innovation throughout all sectors. However, it cannot work in isolation, and innovation must be focused on the needs of end-users whose lives, environment and enterprises will be affected by new knowledge and technological change.

The Government needs confidence that its research, science and technology investments will be rapidly and effectively exploited to make India a knowledge society. This is more likely where sectors demonstrate their strategic thinking about the future, through bold and dynamic innovation strategies and the Government is ready to be a partner in such bold and innovative strategies.

The Union Planning Commission under the Chairmanship of Shri K G Pant, has constituted a High Level Task Force for implementing the Prime Minister's Five Point Agenda. The broad areas of relevance cover Information Technology, Telecom, Bio-Technology, Drug Design, Financial Services and Enterprise wide Management, Global Networking, Education requirements for developing a learning society, Vibrant partnership between Government, industry and institutions, Economic and business strategic alliance built on capabilities and opportunities and setting up of an Education Development Finance Corporation for meeting the needs of deserving students.

The concept of knowledge centred society has been aptly portrayed by Dr R A Mashelkar, Director General of CSIR, in his presidential address delivered at the 87th Indian Science Congress. According to him knowledge revolution is leading to knowledge centred trade and industry. There is a dramatic change in international trade, which was once dominated by primary products such as iron ore etc., and now dominated by knowledge intensive goods. He rightly points out that when we buy one Kilogram of steel, 90% of it is material, while if we buy a copy of Windows 98 from Microsoft, more than 95% of it is knowledge.

Direction Setting

The Government's Science and Technology Departments can think of 'Science Envelope Goals' covering Innovation, Economics, Environment and Social Science, which are all inter-related for making India a Knowledge Society.

This is necessary because of the long-term nature of many science and technology activities. The goals may include planning and strategy to:

- Provide a uniform set of directions across the science envelope, enabling elements of work carried out under different sources of funding to be combined in coherent research portfolios; and
- Act as an anchor point for the performance expectations designed to assess the efficacy of investments in science and technology.

The Goal Statements

There are four Science Envelope Goals. All the goal statements have a similar structure. They identify the role to be played by science and technology in moving towards a knowledge society. The innovation goal refers to the importance of innovation per se, but also underpins the social, environmental and economic goals.

Innovation Goal

Accelerate knowledge creation and the development of human capital, social capital, learning systems and networks in order to enhance India's capacity to innovate.

The first goal recognises the importance of building a culture of innovation in India to underpin all other economic, environmental and social outcomes. Science and Technology should generate new knowledge, help develop human and network capacities, and stimulate an entrepreneurial culture so that India can be full participant in the global knowledge age.

This goal links directly to the Government's aspirations to create an enterprise economy and to value innovation. It reinforces the Government's strategic priority on expanding the country's knowledge base and technological capabilities.

Economic Goal

Increase the contribution that knowledge makes to the creation and value of new and improved products, processes, systems and services in order to enhance the competitiveness of Indian enterprises.

The second goal stresses the importance of new knowledge and technological change as a driver for value-creation, innovation, and productivity gains across the economy.

This goal identifies the contribution that knowledge makes to economic competitiveness. It provides a context for Government investment in key areas consistent with the policy that investment should generate widespread net benefits over time, without displacing or otherwise creating disincentives for investment by others.

A focus on the knowledge base behind new and improved products, processes, systems and services will ensure that Government investment in science and technology and other core sectors of economy complements the role of private sector investment in generating wealth for India. This goal links to the Government's aspiration to develop an enterprise economy.

Environmental Goal

Increase knowledge of the environment and of the biological, physical, social, economic and cultural factors that affect it in order to establish and maintain a healthy environment that sustains nature and people.

The third goal emphasises how knowledge of environment and processes underpins our ability to improve environmental quality and integrity. It picks up ideas related to India's environmental concern expressed in Government's strategic priority on biodiversity.

This goal focuses on improving and understanding of the web of interconnected factors that determine the state of the environment. The knowledge gained will underpin sustainable management of India's environments (terrestrial, marine and atmospheric), and will contribute to minimising hazards and risks associated with our unique environments. This will in turn contribute to better economic and social outcomes.

Social Goal

Increased knowledge of the social, biological, environmental, cultural, economic and physical determinants of well-being in order to build a society in which we Indians can enjoy health and independence and have a sense of belonging, identity and partnership.

This is perhaps the most important Goal as Knowledge Explosion should try to take the poor majority to decent living levels and ultimately we must work towards an abolition of the 'Poverty Line'.

This fourth goal addresses the social outcomes that can be achieved through science and technology investments. It identifies a key role for science and technology in increasing knowledge about the wide range of factors that underpin social and individual development. Society's 'have-nots' should be attended to first for taking them to reasonable heights.

It also reflects the increasing international recognition that innovation is intimately linked to the social conditions in which it is produced. Thus, increasing knowledge of the determinants of well-being provides a platform for developing India's innovative capacity, and opens avenues for improving well-being in its own right. This goal links to the Government's strategic priority on extending economic and social participation of all. Mahatma Gandhi's call 'unto the last' is relevant here.

These four goals strongly influence investment decisions and also provide a context for departmental research, including long-term, cross-portfolio, and applied social science research.

In order to make India a 'Knowledge Centred Society', there is a need for a detailed framework, which will consist of a lot of sub sets and focus on areas of strategic resource generation, economic indicators etc. Such a framework for a nation-wide network knowledge management has been developed by His Excellency Dr APJ Abdul Kalam, President of India and the then Principal Scientific Advisor to the Government of India, a member of the Knowledge Task Force.

Dr Kalam's SWOT Analysis

According to Dr Kalam, nation's long term economic and security objectives evolved through SWOT (Strength, Weakness, Opportunity and Threat) analysis provided the basis for this framework and helped to identify different knowledge areas and priorities for knowledge creation and exploitation.

A knowledge society must be inclusive and for that inclusion to be a reality, every one must have access to participation in the decision-making process. The information and communication infrastructure provides the means for inclusivity because it allows for timely, inexpensive and broad dissemination of information from a multiplicity of sources, to the majority of people. It also allows for immediate assessment and internationalisation of the information that is provided, because of its built-in capacity for interactivity. At the moment, the capacity for interactivity, i.e. the ability to access and exchange information is not universal. For the principle of universality of access to be applied in a way that moves us towards a knowledge society and economy the concept of access must be expanded to include interactive and inclusive participation'.

In order to focus the development of knowledge society in India the first and foremost, the Government should ensure that infrastructure development for knowledge dissemination should be given top priority, which will serve the public interest focus on human communication and provide universal access to information.

The Task Force constituted by the Planning Commission will focus through objectives along the following lines:

- ***To define*** shape and communicate public policy issues that relate to the emergence of India's knowledge society;
- ***To work*** with disadvantaged groups in their efforts to participate in the knowledge society;
- ***To develop*** public awareness programmes;
- ***To research*** issues related to the knowledge society;
- ***To work*** with the creators and developers of knowledge management systems in their efforts to express Indian culture through the information and communication infrastructure;
- ***To encourage*** the development of, and link with other groups with related interest;
- ***To do*** all such other things which are incidental or conducive to the attainment of the above objects;

- ***To initiate*** the production of an annual progress report on India's transformation to knowledge society;
- ***To create*** a national forum to engage public debate in discussions pertaining to knowledge society and an exclusive website on India's knowledge society.

This approach paper mainly emphasizes the issues involved in making India a Knowledge Society, which is the need of the hour.

The terms of reference of the Task Force constituted by the Planning Commission for implementing Hon. Prime Minister's five point agenda is focused for implementation, and the Planning Commission will draw on the talents of everyone concerned with the knowledge platform from eminent Vice Chancellors, Administrators, Industrialists to ordinary knowledge worker to deal at length with issues connected with leveraging of existing competence in select areas, such as global networking, education for development and organizing a learning society, promotion of a vibrant government-industry-academia interaction in policy making and implementation, economic and business strategic alliance, and setting up of an Education Development Finance Corporation for needy and deserving students. This EDFC will be a major input in the growing sphere of Education in the Knowledge Pathway.

India heads the developing world in Knowledge database, and even developed nations like the USA is looking towards us for their software requirements. Bill Clinton went on record that if he had any urgent software needs he would first approach India. We have thus everything to make India a Knowledge Super Power.

India was a Knowledge Force in the ancient days. Let us restore this status to *Bharat* today.

Let me quote Bharat Ratna His Excellency Dr APJ Abdul Kalam, the President of India, from his 'Vision-2020':

"A developed India by 2020, or even earlier, is not a dream. It need not even be a mere vision in the minds of many Indians. It is a mission we can all take up and succeed". ❑

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National Symposium on Hospitality Education

In the wake of increasing demand of hospitality professionals in the industry, the need of the hour is for the 'Shapers' — the technical bodies and academic institutions to come together under one roof and share a common platform to discuss how and what best can be done for the young professionals pursuing Hotel Management as their career in order to enable them to meet the global challenges as well as tune-in with constantly changing professional environment. Keeping this in view, the Vivekanand Institute of Hotel and Tourism Management, (VIHTM), Rajkot had organised a two-day National Symposium on 'The Saga of Hospitality Education — Quality Assurance'.

The objectives of the Symposium were to improve the quality of teaching in Hotel Management and bring it up to global standards, and to find and develop innovative teaching methods in Hotel Management. The Symposium revolved around the themes 'Global Standards for Global Profession' and Looking back and Looking Forward' and it had presentations, discussions and special lectures by the experts. The deliberations revolved around the upgradation and standardisation of the curriculum of Hotel Management colleges approved by AICTE; and improving the standards of teaching methodology.

The Symposium was inaugurated by His Excellency Sh. Sundar Singh Bhandari, the Governor of Gujarat. Sh. P.K. Laheri, Managing Director, Tourism Corporation of Gujarat Limited, Gandhinagar was the Guest of Honour. Prof. N R Shetty, Ex Vice Chancellor of Bangalore University and Member Secretary, Indira Gandhi National Centre for the Arts, New Delhi was the Keynote Speaker who spoke on 'the role of AICTE in the growth and development of technical education in India.' It was a common consensus that Hotel Management and Catering Technology Education in AICTE approved colleges is seriously neglected and has the last priority in the list of technical education programs under AICTE. The time has come when a revolutionary change is required in Hotel Management education in India.

Many suggestions emerged out of the discussion held in the symposium which were forwarded to AICTE Head Quarters for timely action. The suggestions were regarding both the academic and administrative issues depending upon the challenges and difficulties faced by colleges offering Hotel Management program. Some of the important suggestions were:

Administrative Suggestions

- The principals of various Hotel Management colleges do not know whom to contact in AICTE Head Quarters for their difficulties and problems. The telephone exchange of AICTE itself takes a lot of time to pass on the line and colleges invariably spend huge amount of money on daytime STD calls. AICTE Head Quarters should print a diary every year, giving the details of various office bearers with their phone numbers, department-wise.

Clear-cut guidelines be provided in terms of faculty recruitment, pay scales and experience in teaching and/or industry exclusively for Hotel Management colleges. Also, the hierarchy of a Hotel Management degree college should be provided, especially when there are no Masters and Ph.D degree holders in Hotel Management field and the criteria for appointing Professors and Associate Professors is not clear. The guidelines for engineering or pharmacy colleges cannot be applied to Hotel Management colleges since they are technically different.

- The deposit of Rs.20 lacs should not be charged from Colleges who have their own building and quality infrastructure. The interest of the deposit should be released annually towards the infrastructure development of those colleges from whom the deposit has been charged.
- One meeting of all AICTE approved colleges represented by principals must be called at Head Quarter or Regional Head Quarter for updating

them with latest norms, policies and expectations from their colleges.

- Principals must be asked to fill-up an appraisal form for the performance of their college annually. Also, they may be asked to mention the difficulties that they face.

- Separate accreditation manual for Hotel Management should be published. The existing manual for engineering colleges cannot be applied for Hotel Management colleges accreditation since majority of the columns do not pertain to Hotel Management.

- AICTE should update its website from time to time. Also, the list of approved Hotel Management Colleges should include their e-mail ID and telephone numbers along with the name of the Principal/Director.

- AICTE should publish a Newsletter regularly especially for Hotel Management colleges.

Academic Suggestions

- The admissions and its criteria should be uniform all over India. At present, only two States, Gujarat and Maharashtra follow centralised admission while Karnataka or any other state admits students on their own terms and conditions. Department of Technical Education of all states should function on similar pattern.

- Four-year degree curriculum should be formulated systematically and planned well year-wise.

- The curriculum must be designed as per the needs of industry time to time. Also, the vision for the future development should be kept in mind.

- The curriculum should be standardised all over the country for all Hotel Management colleges approved by AICTE.

- Principals/Directors from standard and quality educational institutes should be involved in curriculum formation.

- The training periods for students that form an important part of their curriculum should also be specified and standardised through out the country.

- AICTE should conduct various Faculty Development programs time to time on a regular basis rather than sanctioning a grant for faculty development programs.

- Once the curriculum and the training periods for students is standardised and uniform all across the country, AICTE could also suggest the vacation period, holidays, number of working days and teaching days.

- The hotels are the biggest employers of our students.They do not discriminate the students on the basis of the number of years that they have put in their studies because AICTE approved colleges offer four-year degree program while National Council has started three-year degree program along with IGNOU. If the employer does not differentiate and does not pay anything extra to a four-year degree holder, then AICTE authorities should re-consider their decision of asking students to invest one extra year in their degree and also burdening their parents with payment of one year extra fee.

Foundation Day Lecture on Management

Prestige Institute of Management and Research, Indore celebrated its Decennial Foundation Day by organising a Guest Lecture on Ethics and Business Management recently. The function was inaugurated by Sh. J L Raina, Chairman and Managing Director of Indian Oil Blending Limited, Mumbai (a subsidiary of Indian Oil Corporation Limited). Dr. Upinder Dhar, Director of the Institute in his Welcome Address spoke about the significance of ethics for today's business organisations and its importance for the budding managers.Thereafter, Sh. Raina in his lecture emphatically argued that it is necessary for business houses to follow ethics for attaining success. He emphasised that the managers need to be in a giver's mode and also need to visualise strengths and not just weaknesses among their fellow members. He also stressed that leader's role is to harness the social forces existing in the organisation for shaping and guiding the values.

Sh. Raina quoted some examples from Indian

Epics like Ramayan, Mahabharat and Bhagwat Geeta to illustrate his viewpoint. In his speech, Sh. Raina explained that no set rules can be framed for managing the organisations, as every organisation is unique in itself and different kinds of challenges are involved. Thus, there have to be some rules which permit flexibility. The open house witnessed live interaction with students in which many thought provoking issues were discussed. Sh. Raina supplemented his deliberation by quoting the series of experiments conducted in the Indian Oil Group of Companies. A vote of thanks was proposed by Prof. Richa Agrawal, Coordinator - Decennial Foundation Day Lecture.

BHEL —Anna University Tie-up

The Anna University, Chennai has signed a memorandum of understanding with Bharat Heavy Electricals Limited, Tiruchi, for cooperation in research, technology development and training. The MoU provides joint programmes in the thrust areas of combustion, heat transfer, production technology and process control, materials management and human resource development. The objectives of the programme include imparting high-end training in electrical, mechanical, information technology and energy-related areas; developing and implementing software packages; providing in-house and industrial training to students; designing educational programmes in consultation with departments of the two institutions; introducing relevant postgraduate programmes; undertaking testing, consultancy and training projects and organising faculty exchange programmes in engineering, management and computer applications.

Development of new centres of excellence for long-term cooperative research is also on the anvil. An advisory committee, constituted as part of the MoU, would nominate a task force to identify specific proposals. The MoU was signed by the Anna University Registrar, Sh. N S Ganapathy, and the General Manager (Fossil Boilers), BHEL, Sh. S Sathyanarayanan, in the presence of the Vice Chancellor, Dr. E Balagurusamy, and the Executive Director of BHEL, Tiruchi, Sh. A K Mathur.

Dr. Balagurusamy said that there was an acute shortage of qualified teaching professionals and the programme could help to bridge the demand-supply gap. "A Master's Degree programme in Engineering would be introduced and various other disciplines would be identified by the advisory committee," he said adding that the BHEL employees would be encouraged to pursue Ph.D programmes. Mr. Mathur said that the MoU would help in bringing about a synergy between the two institutions and help to meet industry needs.

Career Guidance Programme at BHU

A Career Guidance Programme for science stream students in general and for agriculture students in particular was organised by the Agriculture Institute of Banaras Hindu University (BHU), Varanasi recently. In his Inaugural Address, the Controller of Examinations of BHU, Prof. V V Menon emphasised that to build a successful career one has to be on run for whole life. He expressed concern for the trend of our country where the career decision for a person is done by his parents, friends or someone else. The person is not given chance to introspect his interests and aptitude and decide for his career. Speaking about jobs Prof. Menon said that the most important thing in a job is job satisfaction

Presidential Address was delivered by the Director of Agricultural Institute Prof. O P Srivastava. He said that the placement and guidance should be made compulsory for the students in the campus. He advised students to be confident while searching for a job. Prof. Srivastava also exhorted the students to cultivate self-discipline. Lauding the role of agricultural education in the country, he said that it is playing very important role in improving the standard of agriculture in our country.

Earlier, the Dean of Agriculture Faculty, Prof. A K Richarya welcomed the guests. The Chief of Guidance Bureau of BHU, Dr. Vishwanath Pandey elaborated upon the activities of the Bureau and the programmes being held in it. A vote of thanks was proposed by the Convener of the Programme, Dr. A K Joshi. Experts from various disciplines like Dr. Priyankar Upadhyay (Social Science), Dr. A K Joshi (Agriculture) Prof. Janardan Singh (Agriculture) Prof. B.D. Singh (Biotechnology), Dr. Anil Tripathi (Computer Engineering.), Dr. Madhoolika Agrawal (Biosciences), Prof. A.K. Srivastava (Psychology) gave detailed talk about career building in their respective disciplines. They discussed about the difference between career and job and possibility of switching from one profession to another. It was also stressed that after graduation and getting job one should not stop studying but try for further higher studies. In the new economic climate the role of NGOs was highlighted by almost all the experts. The importance of social commitment was also dealt with.

International Students' Event

An International Student's Conference on the theme 'Volunteering for Peace and Social Engineering' was held at Punjab Agricultural University, Ludhiana recently. More than 500 students from India and eight other countries including U.K., Canada, Kenya, Mozambique etc participated in the Conference. Mahatma Gandhi Chitrakoot Gramoday Vishwavidyalaya, (MGCGV) Chitrakoot clinched both the first prizes in the competitions organised during the Conference. Ms. Savita Gupta MSW student of MGCGV bagged the first prize in paper writing competition while Mr. Yogendra Kumar, BFA student obtained first prize in poster painting competition. Both the above students also received cash awards of Rs. 5100/- along with citations. Ms Priyanka Yadav received consolation prize in the paper writing event.

Justice Gulab Gupta, Ex Chairman, Human Rights Council of M.P. and presently Vice Chancellor of Rani Durgavati Vishwavidyalaya, Jabalpur felicitated the students for their achievement and applauded their teachers.

New Courses at Rajasthan Vidyapeeth

Directorate of the Distance Education, Rajasthan Vidyapeeth Deemed University, Udaipur is all set to start new courses in the next academic year. Subjects taught in Schools and Colleges are not the whole education, but only means of Education. Keeping this in view, the Vidyapeeth prepares the students not only to take examinations but also to be perfect enough to tackle all the challenges of life.

According to the, Registrar, Dr.(Mrs.) Devendra Johar, since last two years the University has been providing Distance Education facility mainly in two fields i.e. Information Technology and Para Medical Science. IT Courses are: Bachelor of Computer Application (BCA), Post Graduate Diploma in Computer Application (PGDCA), Master of Computer Application (MCA), Diploma in Computer Software Technology (DCST), Diploma in Computer Hardware Technology (DCHT), & Master of Science in Computer Science (M.Sc (C.S)). And the Para Medical Courses are: Certificate in Medical Lab. Technology (CMLT), Diploma in Medical Lab Technology (DMLT), Certificate in Physiotherapy (CPT), Diploma in Physiotherapy (DPT), Bachelor of Science Medical Lab Technology (BSc (MLT)), Diploma in Medical Radiology Technology (DMRT), Certificate in Optometry (C.Opt.T), Diploma in Hospital Management (DHM) and Bachelor of Physiotherapy (BPT).

The Vice Chancellor, Prof. Lokesh Bhatt, with an ambition to provide low cost education to desirous people put his best efforts to run new programmes to benefit the people who could not get education/training/degrees etc. to achieve the set target of their life. The new courses to be conducted under the banner of Directorate of Distance Education are M.Sc (Microbiology), M.Sc (Biochemistry), M.Sc (Biotechnology), M.Sc (Bioinformatics), Post Graduate Diploma in Clinical Pathology (PGDCP), BSc (Maths), BSc (Biology), BSc (Optometry), Guidance course for Nursery Education (GCNE), B.A, M.A, B.Com, B.Tech, M.Tech and MBA.

Agricultural News

Farmers' Fair at Pantvarsity

G B Pant University of Agriculture & Technology, Pantnagar organised recently an All-India Farmers' Fair and Agro-Industrial Exhibition which was inaugurated by His Excellency the Governor of Uttaranchal, Sh Sudarshan Agrawal. While delivering the Inaugural Address at the farmers' fair ground Sh Agrawal said that due to globalisation the country got the chance to compete with the advanced nations and Uttaranchal can avail the opportunity by developing products through utilisation of its natural resources.

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Commitment to Education: Public Spendin

		Public education expenditure[a]			
		As % of GNP		*As % of total government expenditure*	
Sl. No.		*1985-87[c]*	*1995-97[c]*	*1985-87[c]*	*1995-97[c]*
1	Armenia	..	2.0	..	10.3
2	Philippines	2.1	3.4	11.2	15.7
3	Oman	4.1	4.5	15.0	16.4
4	Kazakhstan	3.4	4.4	19.8	17.6
5	Ukraine	5.3	5.6	21.2	14.8
6	Georgia[g]	..	5.2	..	6.9
7	Peru	3.6	2.9	15.7	19.2
8	Grenada	4.5	4.7	8.6	10.6
9	Maldives	5.2	6.4	8.5	10.5
10	Turkey	1.2[i]	2.2[d]	..	14.7[d,e]
11	Jamaica	4.9	7.5	11.0	12.9
12	Turkmenistan	4.1	..	29.3	..
13	Azerbaijan	5.8	3.0	29.3	18.8
14	Sri Lanka	2.7	3.4	7.8	8.9
15	Paraguay	1.1[i]	4.0[i]	14.3[i]	19.8[i]
16	St. Vincent & the Grenadines	6.0	6.3[g]	11.6	13.8[g]
17	Albania	..	..	11.2	..
18	Ecuador	3.5	3.5	21.3	13.0
19	Dominican Republic	1.3	2.3	10.0	13.8
20	Uzbekistan	9.2[g]	7.7	25.1	21.1
21	China	2.3	2.3	11.1	12.2[f]
22	Tunisia	6.2	7.7	14.8	19.9
23	Iran, Islamic Rep. of	3.7	4.0	18.1	17.8
24	Jordan	6.8	7.9	15.8	19.8
25	Cape Verde	2.9	..	14.8	..

Notes: As a result of a number of limitations in the data, comparisons of education expenditure data over time and across countries should be made with caution.

(a) Data refer to total public expenditure on education, including current and capital expenditure. (b) Data refer to current public expenditure on education. Expenditure by level may not sum to 100 as a result of rounding or the omission of the categories "other types" and "not distributed". (c) Data refer to the most recent year available during the period specified (d) Data may not be strictly comparable with those for earlier year as a result of methodological changes. (e) Expenditure previously classified as "other types" have been distributed cross the different education levels (f) Data include capital expenditure

Selected Countries –IV

Public education expenditure by level
(as % of all levels)[b]

Pre-primary and primary		*Secondary*		*Tertiary*	
1985-86[c]	*1995-97*[c]	*1985-86*[c]	*1995-97*[c]	*1985-86*[c]	*1995-97*[c]
..	15.8	..	63.0	..	13.2
63.9	56.1	10.1	23.3	22.5	18.0
..	40.9	..	51.3	..	7.0
..	7.2 [f]	..	63.0 [f]	..	13.9 [f]
..	..	74.2 [h]	73.5 [h]	13.5	10.7
..	22.0	..	45.1	..	18.5
39.5	35.2	20.5	21.2	2.7	16.0
..	..	..	..	..	..
..	..	..	..	..	..
45.9	43.3 [e,f]	22.4	22.0 [e,f]	23.9	34.7 [e,f]
31.9	31.3	34.0	37.4	19.4	22.4
..	..	..	..	..	..
..	14.6	..	63.9	..	7.5
..	..	90.2 [h]	74.8 [h]	9.8	9.3
36.6	50.0 [f,i]	29.7	18.1 [f,i]	23.8	19.7 [f,i]
73.3	..	26.6	..	..	..
..	63.9 [a]	..	20.6 [a]	..	10.3 [a]
45.5	38.4	35.8	36.0	17.8	21.3
47.3	49.5	19.7	12.5	20.8	13.0
..	..	..	..	..	..
29.5 [m]	37.4	33.2 [m]	32.2	21.8 [m]	15.6
44.0 [i]	42.5	37.0 [i]	37.2	18.2 [i]	18.5
42.0	29.0	37.9	33.9	10.7	22.9
..	..	62.9 [h]	64.5 [h]	34.1	33.0
61.5	..	15.9	..	..	..

(g) Data refer to a year or period other than that specified (h) Data refer to combined expenditures for pre-primary, primary and secondary levels. (i) Data refer to the ministry of education only. (j) Data refer to Flemish community only. (k) Data refer to the Office of Greek Education only. (l) Data do not include expenditure on tertiary education (m) Data do not include expenditure on mid-level specialised colleges and technical school. (n) Data refer to the central government only. Columns compiled from 1-4 UNESCO 2000; columns 5-10 compiled from UNESCO 1999b.

Source: Deepening Democracy in a Fragmented World, Human Development Report, 2002, UNDP, Oxford University Press, New York.

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The Governor, praising the quality of Pantnagar seed desired that their timely supply to the farmers must be ensured through line departments. He also expected the University to play a prime role in fruit belt development and preserving germ-plasm and also ensure better quality of the products of the four expert zones in the State viz., Basmati rice, herbal and medicinal plants, litchi and flowers. He exhorted the scientists to work for making scattered and small farms of Uttaranchal farmers profitable.

The Governor was very appreciative of the Farmers' Fair and desired to make it more emphatic as it provides knowledge based on 'seeing in believing'. He advised the farmers to adopt diversification of agriculture suiting to their holdings and agroclimatic conditions. The Governor took a view of the whole Fair with the Vice Chancellor, Dr P L Gautam. Earlier, before inaugurating the fair, he also laid the foundation stone of girls hostel.

Dr. Gautam, while delivering the Welcome Address briefly told about the programmes of education, research and extension of the University. He told that the University organises two farmers' fairs in an year to provide information and input to the farmers before every rabi and kharif season. He said that the arrangements are made for farmers to visit different research stations of the University and observe the supplies of seeds of seasonal crops and the minikits of latest varieties of crops. He also informed about the single-window system of supply of various technologies and products by the University under Agricultural Technology Information Centre. Dr. Gautam also told that the University is reorienting its research programmes as per the requirement of the new State and promised to make the Uttaranchal agriculture progressive.

The Commissioner of Kumaon Division, Shri Rakesh Sharma also expressed his views and said that the Pantvarsity is exerting to reach to the farmers of far flung areas with its reoriented priorities.Vote of thanks was proposed by Dr. N C Tripathi, Director Extension. The Programme was anchored by Dr. R S L Srivastava, Joint Director, Extension. In the fair large number of firms have exhibited their products like fertilizers, chemicals, seeds, equipments, etc. University provided seeds of high-yielding varieties of various kharif crops and vegetables besides the nursery raised plants of different fruits. The Horticulture Show, Animal Show, Auction of heifers, ploughing competitions, etc. were also held on different dates besides the *Kisan Goshthies* and lectures on important subjects by the experts daily in the evenings. A large number of farmers visited the fair daily to take benefit of the new technologies available.

AIU News

Inter- University National Youth Festival — IUNYFEST

The eighteenth Inter-University National Youth Festival—IUNYFEST of the Association of Indian Universities (AIU) was hosted by Kakatiya University, Warangal (AP) during February 07 to 11, 2003. The Festival was financially supported by the Ministry of Youth Affairs and Sports, Government of India. It took off with a colourful cultural rally in which various varsity teams attired in their traditional dresses and costumes displayed their rich art and culture. Thousands of people witnessed the procession and described it as 'Mini-India'. The Vice Chancellor and the Guests of Honour received the Guard of Honour.

Padmasree Neralla Venu Madhav, world-renowned Mimicry Artist, and the Chief Guest of the inaugural function inaugurated the IUNYFEST. Prof T Bhaskar Rao, Registrar, Kakatiya University; Sh Sampson David, Under Secretary AIU, New Delhi; former Vice Chancellors of Kakatiya University, Dr K Jaya Shankar and Prof Pervaram Jagannadham, and the Executive Council Members of Kakatiya University, Prof J Yellaiah, Dr S Raveender Reddy, Dr P Ravinder Rao, Mr Y Chenna Malla Reddy were the Guests of Honour. Prof V Gopal Reddy, Prof T Ravi Prasad, Prof G Damodar, Dr G Benarji and other core committee members were also present on the occasion.

The inauguration was followed by the 'Host

University Performance' which included five dances, viz, *Swagatham* (Welcome Dance), *Maa Telugu Talli* (AP State Welcome Dance), Banjara Dance (popular among AP tribes), *Kuchupudi* (AP State Classical Dance), Hindustani Vocal, Folk Dance, Folk Song (popular in Telangana), a Patriotic Song and Mimicry Programme by Padmasree Neralla Venu Madhav. About 850 students representing 57 universities participated in 23 events of Music, Dance, Literary, Fine Arts and Theater Competitions. Renowned artistes and experts in their own fields from all over India adjudicated the events.

Hundreds of people made a beeline at the University Arts and Science College and the University Auditorium, the venues of the festival. The two venues witnessed large turn out by the students and the public. The performance of the participants from the Punjabi University, Patiala and Madras University in the classical dance section was quite good. The students of Banasthali Vidyapeeth, Rajasthan, performed splendid tribal and folk dances.The participants of Manipur University, Imphal also exhibited their talent in Classical and Folk dance.

The Literary Events of the festival tested intellectual capabilities of the participants.In Elocution and Debating the students were at their best captivating the audience and the judges. The Quiz covered all the important branches of science and technology with two audio-visual rounds. In the Fine Arts category, the students' performance was breathtaking. Their excellence in Rangoli, On the Spot Painting, Cartooning and Collage was brought out in an impressive way

Prof J Anantha Swamy, Vice Chancellor of Osmania University, Hyderabad was the Chief Guest at the Valedictory Function. He said that the country's unique feature is its unity in diversity. The Guest of Honour of the Festival, Dr Rajendra Prasad, a popular Telugu cine artist said that the festivals like this would help youth get a foothold in relative fields like cinema and television. Speaking on the occasion Prof Chandrakant Kokate, Vice Chancellor, Kakatiya University said that all the 23 events, staged during the festival proved the country's rich culture.

According to Sh Sampson David, Under Secretary, Youth Affairs, Association of Indian Universities,"the five-day IUNYFEST at Kakatiya University not only strengthened the roots of our ancient culture and heritage, but also paved a way to national integration and oneness among the youth. The event also proved a big boost for promoting emotional integration, which is much required at present juncture. Moreover, it became a good platform where an opportunity was provided to the youth for healthy interaction and competition, and aesthetic appreciation."

The Valedictory Function was followed by prize distribution.The Guru Nanak Dev University, Amritsar emerged as Overall Champion followed by the Punjabi University, Patiala.Other popular prize winners included the Banaras Hindu University (Group Champions in Literary and Fine Arts) and the Bharathidasan University, Tiruchirapally (Best Team for Cultural Procession). ❑

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objectives	Names of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
Apr. 28-30 2003	National Workshop on Biological Evaluation of Materials for Medical Devices	To bring an awereness of the Importance of evaluating the biological response to materials	Division of Implant Biology, Biomedical Technology Wing, Sataimond Palace Campus of SCTIMST, Trivandrum	Dr. T.V. Anil Kumar, Organising Seccretary (BEMMO-2003), Division of Implant, Biology, Biomedical Technology Wing, Sataimond Palace of SCTIMST, Trivandurm 895 012. Phone : 0471-340801; e-mail: bemm@rediff.nic.in; Wedsite: aita: http://bemmd.tripod.com.

A Suitable Text Book on Managerial Economics

Seema Singh
(Delhi College of Engineering, Delhi-110 042.)

PL Mehta, (2002), Managerial Economics, Analysis, Problems and Cases, New Delhi, Sultan Chand & Sons, xviii + 768 pp, Rs. 200/-.

Managerial Economics is the economics of today as it provides inevitable tools to the business world in taking decisions. There is a plethora of books available in the market on the subject. Hence, any book finds a stiff competition in making their mark. However, the book whose seventh edition is under review has remained favourite among teachers and students since its first edition due to the extensive and in depth coverage of the topics. Over the period, the book has been continuously upgraded and improved to make the treatment of the topics more compact and contents more comprehensive.

In the seventh edition, all those features have been retained which has made the earlier six editions of this text as one of the leading texts in India. The framework and orientation of the book remains unchanged, at the same time the order of the presentation has been reorganized as well as several new issues have been added to accommodate the change in the scope of the subject. These have been done to give up-to-date material to the students along with their individual requirement. The book is divided into 34 chapters and five supplements. Chapterisation of the book is well planned and each chapter has been developed meticulously. Issues discussed in successive chapters are consequential and integrated in such a manner that each chapter is independent in itself at the same time together they portray a complete picture. In each chapter, theoretical discussions are rigorous and are supported by necessary diagrams and simple mathematics. Important concepts have been discussed separately in each chapter. These will help in understanding the exact import of the key terms used in the text. However, most significant features of the book may be considered as discussion on the case problems of the theoretical constructs. They are altogether 36 in number while 19 of them appear at the end of the chapters, 17 cases are given at the end of the book. These case studies will enable the reader to integrate the knowledge acquired from the text with the real world scenario.

Chapters, which need special mention are the role of Government in the market economy, public sector undertakings, international trade and international finance and economic decisions in multinational settings. The author has done a remarkable job by discussing international trade and international finance in an exhaustive manner. It will give the students a very clear understanding of the international economic environment and enable them to understand dimensions of demand and supply and pricing strategies in the international market. The chapter on public sector undertaking discusses various related issues. Concepts and steps in cost-benefit analysis have found significant coverage, which will be very helpful to the students in understanding the implications of public sector decisions even beyond the economic horizon. However, both teachers and students will miss the detailed discussion on disinvestments, which has become quite significant these days. IT revolution can be termed as the most significant development of the last century. It has affected economy at both macro and micro levels in more than one way. Students must be well versed with the repercussions of IT in their endeavour. An additional chapter on e-business would certainly have added some more value for the students of managerial economics.

All the relevant topics cannot be incorporated in a book due to time lag involved between discussion of an issue and writing chapters for inclusion in the book. Anyway, absence of some of the topics has not decreased the usefulness of the book. The book will continue to fulfill the expectation and aspiration of its target group i.e. students of MBA, M Com, All India Management Association, MA (Business Economics) and M Tech (Management) of the various Indian universities and institutes as well as practising managers and managerial economists. The author has done a praiseworthy work in writing and upgrading the book according to the changing requirements while the publishers also need appreciation for their endeavour. The presentation of the book is elegant and printing is flawless. Price also seems to be reasonable. ☐

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities
(November-December, 2002)

HUMANITIES

Fine Arts

Music

1. Gupta, Mukta. **Vartman kal mein prachar prasar ke madhyamon ka shastriya sangit per prabhav: Ek adhyayan.** (Dr Neelam Paul), Department of Music, Panjab University, Chandigarh.

2. Sharma, Alka. **Drishya shravya sadhnon ka sangitik adhyayan evam Bhartiya sangit mein unka yogdan.** (Dr Simmi R Singh). Department of Music, Panjab University, Chandigarh.

Sculpture

1. Gavai, Laxmidevi. **M A Chettiyavara jeevana, kalakruthigalu: Ondu adhyayana.** (Dr S C Patil), Department of Sculpture and Iconography, Kannada University, Hampi.

Geography

1. Dighrra, Praveen Kumar. **Geomorphological study of Amarkantak region and its control on land use and distribution of natural resources by remote sensing technique.** (Dr A K Shukla), Department of Geography, Rani Durgavati Vishwavidyalaya, Jabalpur.

History

1. Bhattacharya, Ujjayan. **Making of early Colonial Bengal: Agrarian economy, institutions and agency cr 1750-1800.** (Prof Rajat Datta), Centre for Historical Studies, Jawaharlal Nehru University, New Delhi.

2. Chandrashekhar Shasthri, H M. **The Vijayanagara urbanity.** (Dr K R Basavaraj), Department of History, Karnatak University, Dharwad

3. Choudhary, Zarina John. **Betul Jile ke rajnaitik, arthik evam samajik Jeewan ka vishleshanatmak adhyayan.** (Dr A Thakur). Department of History, Rani Durgavati Vishwavidyalaya, Jabalpur.

4. Gupta, Alka. **Social history of Simla hill states during the colonial period.** Department of History, Himachal Pradesh University, Shimla

5. Hilaly, Sarah. **Development of Railways in Assam and its socio economic impact, 1885-1947.** (Prof S Dutta). Department of History, Arunachal University, Itanagar.

6. Kumari Anjana. **Dharma in the Mahabharata: Concepts and practices.** (Prof Kunal Chakrabarti), Centre for Historical Studies, Jawaharlal Nehru University, New Delhi.

7. Kumbar, Amaresh. **Samagra Kannada grantha suchigalu: Ondu adhyayana.** (Dr Karisiddappa), Department of History of Science, Kannada University, Hampi.

8. Md Parwez. **The eighteenth century Eastern Frontier of Bengal: A study in crisis.** (Dr Sajal Nag), Department of History, Assam University, Silchar.

9. Seth, Shekhas. **A study of the British policy towards Indian states, 1921-1936.** (Dr J R Mishra), Department of History, Rani Durgavati Vishwavidyalaya, Jabalpur.

10. Sharanabasappa, P. **Koppal Hampiya pradeshada pragitihasa kalada kale.** (Dr C Mahadev), Department of Archaeology, Kannada University, Hampi.

11. Sharma, Rashmi. **Sahitya aur kala ke pariprekshya mein purva madhyakal mein nari.** (Prof Radhakant Verma), Department of History, Awadhesh Pratap Singh University, Rewa.

12. Singh, Vijaya Laxmi. **Mathura: The settlement pattern and cultural profile of an early historical city.** (Prof B D Chattopadhyaya), Centre for Historical Studies, Jawaharlal Nehru University, New Delhi.

Languages & Literature

Assamese

1. Barbora, Madhumita. **COMPs in Assamese: Implications for second language acquisition.** (Prof M M Sarma and Prof P Madhavan), Department of Assamese, Tezpur University, Napaam.

2. Barma, Siddheswar. **Jogesh Dasar upanyas: Eti bislesanatmak adhyayan.** (Dr P Hazarika), Department of Assamese, Gauhati University, Guwahati.

3. Ghosh, Rajat. **Some aspects of determiner phrase in Bangla and Assamiya.** (Prof M M Sarma and Prof Probal Dasgupta), Department of Assamese, Tezpur University, Napaam.

4. Goudo, Krishna Chandro. **Sahityarathi Lakshminath Bezbarua and Sahityarathi Phakirmohana Senapati: A comparative study with special reference to their fiction.** (Dr S N Goswami), Department of Modern Indian Languages, Gauhati University, Guwahati.

5. Phukan, Manashi. **Kripabarar Rupat Lakshminath Bezbarua: Eti bislesanatmak adhyayan.** (Dr B Sarma), Department of Modern Indian Languages, Gauhati University, Guwahati.

Bengali

1. Dutta, Sutapa. **Sarat sahitye nari byektitya pratistha O parinati.** (Prof Tapodhir Bhattacharjee), Department of Bengali, Assam University, Silchar.

2. Paul, Tripti. **Rabindra kavye Bharatiya aitihya: Anusriti O nabanirman.** (Prof Tapodhir Bhattacharjee), Department of Bengali, Assam University, Silchar.

3. Roy, Sarbani. **Rabindra upanyase nari byaktitya chetanar bibartan.** (Prof Tapodhir Bhattacherjee), Department of Bengali, Assam University, Silchar.

4. Seema Rekha. **Bankim Chandra upanyase nari, nari chetanabadi adhyayan.** (Prof Tapodhir Bhattacharjee), Department of Bengali, Assam University, Silchar.

English

1. Chakrabarti, Tapas Ashitranjan. **Novels of Amitav Ghosh: A study in post colonial discourse.** (Prof Adesh Pal). Department of English, North Gujarat University, Patan.

2. Narayanan, Sowmya. **Alice Walker and womanism.** (Dr U Ramadas Rao), Department of English, Bangalore University, Bangalore.

3. Pentareddi, Fatima Mary Rani. **A study of the problem of expatriate adjustment in the novels of Bharathi Mukherjee, Vassanji and Anita Desai.** (Dr Sumita Roy), Department of English, Osmania University, Hyderabad.

4. Rama Devi. **Feminism in Joyce Carol Gate's selected novels.** (Dr D Kanakadurga), Department of English, Osmania University, Hyderabad.

5. Raveendpanadh, Jandhyala. **Indian national movement of Hindu xemophobia: A critique of Nirad C Chaudhury's objectivity.** (Dr Allidi Uma), Department of English, University of Hyderabad, Hyderabad.

6. Sutradhar, Nirod Ch. **The quest for freedom: A critical study of the major novels of D H Lawrence.** (Dr G N Roy), Department of English, University of North Bengal, Raja Rammohunpur, Distt Darjeeling.

7. Tejmani Singh, Akham. **Conflict of two values: Tradition and modernity in the novels of Kamala Markandaya.** (Dr Kh Kunjo Singh), Department of English, Manipur University, Imphal.

Hindi

1. Anandi Devi, H. **Samkaleen Hindi rangmanch ke**

pariprekshya mein Manipur ka samkaleen rangmanch: Kanhailal, Ratan Thiyam aur Sanakhya Ibotombi ke vishesh sandarbh mein. (Dr I S Kangjam), Department of Hindi, Manipur University, Imphal.

2. Chauhan, Nant Ram. **Bhartendu Harishandra kee alochna drishti.** Department of Hindi, Himachal Pradesh University, Shimla.

3. Dhani Ram. **Sathottari Hindi kavita ke sandarbh mein Leeladhar Jagudi ka kavya.** Department of Hindi, Himachal Pradesh University, Shimla.

4. Gupta, Abha. **Samkaleen kavita: Samvedana aur bhasha, Kedarnath Singh, Vishnu Khare aur Ashok Vajpayi ke vishesh sandarbh mein.** (Dr A N Mishra), Department of Hindi, Banaras Hindu University, Varanasi.

5. Inamdar, Shakuntala *Prabhakar.* ***Shri Girija Kumar Mathur*** **ke vyaktitva evam krititva ka anusheelan.** (Dr M B Karoo), Department of Hindi, Nagpur University, Nagpur.

6. Jai Nand. **Harishankar Prasai ke katha sahitya mein samajik rajnitik vyang.** Department of Hindi, Himachal Pradesh University, Shimla.

7. Kanwal Jit Kaur. **Upanyaskar Rangeya Raghav aur Amritlal Nagar ke aitihasik-pauranik nari patron kee tulana.** (Dr Laxmi Narain), Department of Hindi, Panjab University, Chandigarh.

8. Khan, Tabassum Khan Imam. ***Dr Rahi Masoom Raza:*** **Vyaktitva aur krititva.** (Dr M B Karoon), Department of Hindi, Nagpur University, Nagpur.

9. Nishant. **Hindi sant sahitya: Manviya mulya aur chintan, Kabir ke sandarbh mein.** (Dr Digambar Pandey), Department of Hindi, Vinoba Bhave University, Hazaribag.

10. Pandey, Shradha. **Vrindavan Lal Verma ke upanyas: Sangharsh ke ayam.** (Dr R S Pandey), Department of Hindi, Maharshi Dayanand University, Rohtak.

11. Rathi, Sudha. ***Hindi*** **sahityakaron kee atma kathayon mein rachna prakriya ka vishleshan.** (Dr Vishwa Bandhu), Department of Hindi, Panjab University, Chandigarh.

12. Ved Pal. **Meera kee madhura bhakti.** (Dr L N Sharma), Department of Hindi, Panjab University, Chandigarh.

13. Venkatesh, M T. **Hindi aur Kannada upanyas sahitya mein chitrit varga sangharsh ka adhyayan, 1935 se 1960 tak.** (Dr K N Pushpalatha), Department of Hindi, Bangalore University, Bangalore.

14. Verma, Shobharani Sureshchandra. **Swatantrayottar Hindi katha sahitya mein shramik nari ke arthik samajik jeewan ke chitran ka anusheelan.** (Dr Suraj Prasad Mishra), Department of Hindi, Nagpur University, Nagpur.

Kannada

1. Bagalakota, D A. **Prabhulingaleele: Ondu dharshanika adhyayana.** (Dr F T Hallikeri), Department of Kannada, Kannada University, Hampi.

2. Narayanarao, Navarathna Suchetha. **Sanskrutha natakagala anuvada mathu rupantara: Ondu adhyanaya.** (Prof Mallepuram G Venkatesh), Department of Kannada, Kannada University, Hampi.

3. Shetty, Vasudev. **Adhunika Kannada sahityada belavanigeyalli patrikegala paatra.** (Dr Mohan Kumar), Department of Kannada, Kannada University, Hampi.

4. Totad, Basavanneppa Parasappa. **B Sivamurtishastrigala badakubaraha.** (Dr B V Shirur), Department of Kannada, Karnatak University, Dharwad.

Sanskrit

1. Mishra, Gangesh. **Karakadhikariyamahabhashyasya paryalochanam.** (Dr R C Panda), Department of Vyakaran, Banaras Hindu University, Varanasi.

2. Pandey, Bhuvaneshwar. **Paribheshendu Shekhare *Bhutivijayayostulanatamakam adhyayanam.*** (Dr B Amal Shastri), Department of Vyakaran, Banaras Hindu University, Varanasi.

3. Pandey, Chandramani. **Shukla Yajurvedasya madhyandinasakhiva: Mantranam smartayagesu viniyogah.** (Dr K S Dave), Department of Veda, Banaras Hindu University, Varanasi.

4. Rama Devi, S. **Purusarthas in Valmiki and Adhyatma Ramayanas.** (Prof Nalini Sadhale), Department of Sanskrit, Osmania University, Hyderabad.

5. Sarma, L V Subrahmanyeswara. **A comparative study of commentaries Sarvankasa and Sandehavisausadhi on Maghakavyam.** (Prof B Narasimha Charyulu), Department of Sanskrit, Osmania University, Hyderabad.

6. Senapat, Veena. **Ayurveda aur Shakiya rasayan shastra ka tulanatmak adhyayan.** (Dr K K Chaturvedi), Department of Sanskrit, Rani Durgavati Vishwavidyalaya, Jabalpur.

7. Sharma, Dinesh Kumar. **Shri Radhacharit Mahakavya: Ek sameekshatmaka adhyayana.** (Prof Damodar Jha), Department of Sanskrit, Panjab University, Chandigarh.

8. Srivaishnav, Raghunathdas. **Vedayogevyakaraneshu shabdatatvavimarsh.** (Dr R C Panda), Department of Vyakaran, Banaras Hindu University, Varanasi.

9. Tiwari, *Kamleshwar Prasad.* ***Brihatparashar Horashastra*** **mein pratipadit grah dasha, falon ka tulanatmak adhyayan.** (Dr R B Dwivedi), Department of Sanskrit, Rani Durgavati Vishwavidyalaya, Jabalpur.

10. Tripathi, Vishwanath. **Agnipuranasya horashastriya sarvekshanam.** (Dr Anjani Prasad Pandey), Department of Sanskrit, Awadhesh Pratap Singh University, Rewa.

11. Upadhaya, Meenakshi. **Yajurvediya Madhyandina aur Taittiriya Sakhayon ke vishesha sandarbha mein Daksayana Haviryajna ka alochanatmaka adhyayana.** (Dr Vikram Kumar), Department of Sanskrit, Panjab University, Chandigarh.

Telugu

1. Balaswamy, K. **Vemula Ramabhattu Gouri Vilasamu: Amudrita kavyamu.** (Dr V Nithyananda Rao), Department of Telugu, Osmania University, Hyderabad.

2. Karunasri, Korimerla. **Aadhunika Telugu kavitvamlo samudram.** (Prof K K Ranganathacharyulu), Department of Telugu, University of Hyderabad, Hyderabad.

3. Narayana Rao, D. **Prakasam zillalo Telugu bhasha sahityala vikasam.** (Prof R Srihari), Department of Telugu, University of Hyderabad, Hyderabad.

4. Ramalinga Sastry, V R. **Telugulo Kuchipudi nataka vikasamu.** (Dr H Venkata Rami Reddy), Department of Telugu, Osmania University, Hyderabad.

5. Srinivasa Rao, Kakumani. **Kalatatwa Sastra samasyalu: Telugu kalatatwikula vivechana.** (Prof M Veerabhadraiah), Department of Telugu, University of Hyderabad, Hyderabad.

6. *Subba Rao, A.* ***Sri Pochiraju Seshagirirao gari sahitya*** **varivasya.** (Dr V Simmanna), Department of Telugu, Andhra University, Waltair.

7. Venkateshwarloo, M. **Utla Kondaiah sahityam parisheelana.** (Prof S V Rama Rao), Department of Telugu, Osmania University, Hyderabad.

Philosophy

1. Brahmachari, Ram Swarup. **Adwait Vedanta kee drishti se Shrimadbhagvat mein varnit geeton ka ek parisheelan.** (Dr K K Sharma), Department of Vaidic Darshan, Banaras Hindu University, Varanasi.

2. Chanda Kumari. **Patanjal Yogdarshan ke prakash mein Gorakshesamhita ka sameekshatmak adhyayan.** (Dr K K Sharma), Department of Vaidic Darshan, Banaras Hindu University, Varanasi.

3. Ingle, Sunita Suryabhan. **An inquiry into the relation of the terms Truth, Good and Beautiful.** (Dr K P Pande), Department of Philosophy, Nagpur University, Nagpur.

4. Joshi, Dinesh Chandra. **Gherandasamhita *Hathayogapradipikayo: Samanvayatmakamdhyayanam.*** *(Dr* K K Sharma), Department of Vaidic Darshan, Banaras Hindu University, Varanasi.

5. Roy, Jashabanta. **A critical study of some aspects of Rabindranath's social philosophy with special reference to individual society and nature.** (Dr D K Mohanta), Department of Philosophy, Assam University, Silchar.

6. Sarma, Pranita. **A critical study of Gandhi's concept of religion.** (Dr Manisha Barua), Department of Philosophy, Gauhati University, Guwahati.

7. Sen, Madhumita. **Hermeneutics of structure, escape and freedom vis-a-vis partners in marriage living in a metropolis.** (Dr P Ray), Department of Philosophy, University of North Bengal, Raja Rammohunpur, Distt Darjeeling. ❑

INDIAN INSTITUTE OF TECHNOLOGY
KHARAGPUR - 721 302

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Applications are invited for admission to the Ph.D. Programme in all disciplines of Engineering & Technology, Science, Architecture & Planning, Humanities and Social Sciences and Management. Candidates having **B.Tech/B.E./B.Arch./MBBS/M.Sc./MBA (done after B.A./ B.Sc/B.Com)** or equivalent qualification with **valid GATE** score [for M.A. or equivalent qualification with NET (Candidates who have Qualified only for Lecturership need not apply)] **OR M.Tech/M.E/MCP/MBM** degree can be admitted against vacant positions with Institute Research Scholarship of Rs. 6,000/- or Rs. 7,000/- p.m. depending upon the qualification. No scholarships are available in the Vinod Gupta School of Management.

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Last date for issuing forms by Post :- ***29th April, 2003***

Last date for submitting completed application form :- ***7th May, 2003***

Date of Interview (Tentative) :- ***25th-27th June, 2003***

Joining date/Registration (Tentative) :- ***25th July, 2003***

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Rs. 11,000/-, Rs. 11,500/- or Rs. 12,000/- p.m. (fixed) depending upon the qualification and experience.

NATIONAL CENTRE FOR ANTARCTIC & OCEAN RESEARCH

(Department of Ocean Development, Government of India)

Headland Sada, Vasco da Gama, Goa 403 804

Subject: Invitation for scientific proposals for Annual Indian Scientific Expeditions to Antarctica

1. The National Centre for Antarctic & Ocean Research (Department of Ocean Development) sends scientific expedition to Antarctica every year. The Twenty third Indian Scientific Expedition to Antarctica will be launched in December, 2003 and will consist of summer team which will return to India in March 2004 and a winter team which will return to India in March 2005. Subsequent expeditions shall be launched accordingly.
2. The National Centre for Antarctic & Ocean Research (NCAOR) invites scientists/researchers/engineers to submit research proposals for undertaking front ranking scientific experiments in Antarctica in various inter-disciplinary fields/themes for 23rd (2003-2004), 24th (2004-2005), 25th (2005-2006) and 26th (2006-2007) Indian Antarctic expeditions. Thrust areas under various themes of polar science are provided below:-

(i) Meteorology & Atmospheric Sciences

- Whistler / VLF, riometer, electrical and geomagnetic studies.
- Sky image camera for optical aeronomical & auroral studies.
- Sophisticated instrumentation of digital ionosonde and phase path observation. The ionosonde can form a major element of space weather programme.
- Ground based (Brewer Spectrophotometer) and balloon borne studies of ozone and other trace gases including UVB radiation.
- The experiments on aerosol radiative forcing as a part of climate studies / change program.
- A LIDAR program for monitoring polar stratospheric clouds (ozone depletion) and monitoring middle atmospheric temperatures, waves and polar vortex (for ozone depletion and global warming studies).
- Infra red gas analyser, gas chromatograph and Fourier transform spectrometer for measuring of green house gases including water vapour.
- Climatological data archival and data utilisation for predictive modelling.
- Planetary boundary layer studies to monitor long term changes, if any and also access environmental impact, if any.
- Katabatic flow, snow drift and energy balance radiation studies using AWS.
- Studies on ice sheet - atmosphere interaction and surface climatology of Antarctica for modelling studies (tele-connections with monsoons).
- Automated tracking of synoptic and mesoscale weather system using operational satellite systems for now casting.
- Southern hemisphere cyclones and sea-ice links.

ii) Earth Science & Glaciology

- Geological & geophysical studies.
- Thematic studies of granulitic rocks, Proterozoic metamorphites, charnokites, orthogneisses, intrusive granite, mafic dykes, anorthosite etc.
- Correlation between east and west parts of CDML as also with other areas of east Antarctica and related Gondwanaland fragments.

- Ice core drilling for paleo-environmental studies (mission mode project).
- Studies of lacustrine sediments/cores for palaeo environmental studies.
- Airborne/landborne geophysical surveys with multi sensors, including ice probe radar - transects and grid survey.
- Studies on Antarctic neotectonics activities employing GPS, seismic and other tools.
- Studies of satellite imageries for ice sheet fluctuations.
- Fluid inclusion studies on high-grade granulites.

iii) Biology & Environment Sciences

- Primary, secondary production and population dynamics of lakes.
- Carbon cycle of lake eco-systems.
- Interaction between lake and glacial melt water inputs.
- Role of benthic algal mats in the nutrient cycle.
- Sea-ice microbial community structure and bio diversity.
- Contribution of microbial community to water column productivity.
- Dynamics and energetics of these communities.
- Study of physiological and molecular basis of adaptation of the flora and fauna.
- Identify and isolate enzymes which are active at low temperatures (mission mode).
- Identify and isolate molecules which have an anti microbial activity.
- GIS based wild life census and cataloguing of shore line and pack ice regions.
- Population dynamics and behaviour of avian fauna.
- Temporal variation of wild life as an environmental index.
- Identification of areas of SPA and SSSI on the basis of wild life value.
- Continuous monitoring and conservation of soil, water and air qualities.
- Environmental audit and impact of waste management protocol.
- Develop oil handling, storage, spill and other emergency handling protocols.
- To extend assessment of EIA from local to regional levels.
- Generate baseline data for CEE / EIA studies in new areas of operation.

iv) Human Physiology & Medicine

- Studies on molecular mechanism of acclimatisation.
- Assessment of nutritional requirement of expedition members.
- Study of apoptosis and ageing factor under cold conditions.
- Study of magnetic influence on psycho-physiological aspects.
- Framing out of work-rest schedule for members.
- Comparative studies of human behaviour and physiological / psychological changes in Antarctica with that of Arctic region.

v) Engineering & Communication

- Application of non-conventional energy sources (wind, solar, fuel cells).
- Application of VLF and ULF propagation as communication tools.

- Development of long distance and cold region communication technology.
- Development of incinerators, vehicles, life support systems for cold region utility.
- Automatic conditioning monitoring and remotely operated systems.
- Video conferencing.
- Development of indigenous kit clothing for cold region utility.

3. Research programme in the field of Southern Ocean Oceanography & allied branches of science including logistics requirement may also be submitted. Besides above themes & thrust areas, the sound proposal in any other scientific field / topic may also be submitted for consideration.

4. Proposals for summer and winter periods are invited in the above areas of research. While framing the proposal, repetition of scientific work already carried out from the Indian station 'Maitri' in Antarctica should be avoided. Due consideration has to be given to the fact that the experiments have to be carried out within the logistic infrastructure available at 'Maitri' and should be limited to around 150 kms radius of the station. The proposal should be succinct, indicating the following:

   i) the scientific aims and objectives with illustrations and references;
   ii) expected results and their relevance;
   iii state of the art experiments in the international scenario;
   iv) if an on going programme, its accomplishments till date;
   v) time frame of the project (summer/winter) with milestones;
   vi) the team component (summer/winter) & logistic requirements;
   vii) any national/international collaborations envisaged;
   viii) proposal should have the complete biodata of the proposer(s) along with names of two referees. The P.I. should be a permanent employee and must have sufficient experience in the relevant field.
   ix) There should be a long term research programme (2 - 4 yrs.) to be undertaken by concerned PI/ Organisation/Institute with institutional commitment.

5(a) The regular participating organisations (like NGRI, GSI, BSI, ZSI, SASE, NPL, B.U., IMD, DIPAS, IIG, NBRI & others) have to submit their long term **research programme for 4 years.** However year wise (expedition wise) proposed activities should be properly spelled out.

(b) Those organisation / Institutes which are submitting their proposal for the first time should submit their long term **research programme for 4 years.** However, year wise (expedition wise) proposed activities should be properly spelled out. The new proposal with the commitment of their respective institutes for long-term research programme to be undertaken in Antarctica shall be given preference.

(c) Nominees recommended should be physically fit to work in extreme sub zero temperatures and harsh conditions and should not have any ailments and illnesses which is likely to have an adverse effect or related problems. A medical fitness certificate from a Civil Surgeon of a Government Hospital must accompany all nominations. Nominations without such medical certificates will be summarily rejected.

(d) Nominees must be able to and willing to cooperate in cargo handling operations and station maintenance activities. They should also be willing to assist in expedition activities outside their assigned scientific tasks.

(e) All nominated members should be prepared to stay in accommodation on sharing basis, as may be available in the ship or in the Antarctic Station/Camps.

(f) All nominated scientists, especially those likely to be involved in outdoor activities must be able to cook a simple meal, and should have knowledge of first aid.

(g) It is also necessary to ensure that summer nominees have a work programme which is likely to take at least 45 days time on main-land Antarctica or in the polynya and should not be merely sample collection activity.

6(i) The proposals would be scrutinised through a multi-tier selection mechanism and only those recommended for final inclusion will be informed for fulfilling other requirements. No correspondence in regard to selection will be entertained.

(ii) "All approved proposals shall be implementable subject to guidelines/instructions/rules/regulations o f Department of Ocean Development/NCAOR".

7. NCAOR/DOD makes arrangements for travel to Antarctica from Goa and back, accommodation in the ship and in Antarctica, food, special polar clothing requirements and personal insurance cover. All other expenses including those related to procurement of scientific equipments, attending pre-Antarctic trainings & briefings, Hard Duty Allowance etc. will have to be borne by the participating organisations. This may be taken into account while forwarding the nominations.

8 Deadline for receiving proposals: **Three copies of the proposals are to be forwarded institutionally through proper channel** and must reach the Centre Director, National Centre for Antarctic & Ocean Research, Headland Sada, Vasco da Gama, Goa 403804 by **30th April 2003**. Nominations received after this date will not be entertained. Such information is also available on our website www.ncaor.org.

Sd/-
(Dr. N. Khare)
Program Director (Science)
Ph: 0832-2520861
Fax: 0832-2520877, 2520873
Email: khare45@hotmail.com

Advt No.NCAOR/5/2003
Date: 10.03.2003

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

69, ANNA SALAI, GUINDY, CHENNAI - 600 032

DEPARTMENT OF EPIDEMIOLOGY

ADMISSION DETAILS:

M. Sc. EPIDEMIOLOGY

- Course conducted at the Department of Epidemiology. The Tamil Nadu Dr. M.G.R. Medical University, Chennai 600 032.
- Number of seats - 4 (Four)
- Duration of the course is two years (2years) of which the first year of course work should be done in the university. The project work during the second year may be done in the home institution.

MINIMUM EDUCATIONAL QUALIFICATIONS FOR ADMISSION:

a) Medical or Dental Graduate (MBBS, or BDS from a recognized University)
b) Permanent registration certificate from the Medical Council / Dental Council
c) Three years experience in public health or clinical side after MBBS or BDS will be a desirable qualification.

GENERAL INFORMATION:

- Upper ago limit: 35 years as on 1st June of the Academic year in which admission is sought. Admission will be based on the candidates academic record. Preference will be given to sponsored candidates. Final selection will be made after interview.
- Last date for receiving application- **15th April 2003**.
- Application forms will be available at The Tamil Nadu Dr.M.G.R. Medical University. Cost of application form - **Rs.250/-** (D.D. may be drawn in favour of "**The Registrar, The Tamil Nadu Dr. M.G.R. Medical University, Chennai**").
- For further details contact: -

Dr. Manjula Datta
Professor & Head
Department of Epidemiology
The Tamil Nadu Dr. M.G.R. Medical University
69, Anna Salai, Guindy, Chennai - 32
Phone: 2220 0713 / 22353574 - 76 Extn. 232, 234, 258
E-mail: workshopmgr@ hotmail.com

GRAMS:NIMHANS Ph: 6995000/6995015 FAX: 0091-080-6564830 / 6562121

NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES

(DEEMED UNIVERSITY)
P.B.No.2900, Hosur Road, Bangalore-560 029, INDIA

No.NIMH/ACA/ADMN/2003-2004 Dated: 01.04.2003

ADMISSION NOTICE

Applications are invited on prescribed form from Indian Nationals for admission to the following courses for the academic Year 2003-2004 commencing from 1st September, 2003.

A. POST-GRADUATE DEGREE/DIPLOMA COURSES

1.1	**Doctor of Philosophy (Ph.D)**	**Institute Fellowship**
a)	Ph.D Degree in Clinical Psychology	- 4
b)	Ph.D Degree in Biophysics	- 1
c)	Ph.D Degree in Human Genetics	- 1
d)	Ph.D Degree in Neuroimaging & Interventional Radiology	- 1
e)	Ph.D Degree in Neurophysiology	- 2
f)	Ph.D Degree in Speechpathology & Audiology	- 1

1.2 Doctor of Philosophy (Ph.D) -Fellowships from recognised Institutions/Agencies

Candidates can register for the following disciplines. Entrance examination for selection of candidates for Ph.D programme in these departments will be held during the months of July and March. Candidates with fellowships from recognised Institutions/Agencies have to work on full time basis for a minimum period of three years (Two years for candidates with M.Phil/DNB/MD/MS/DM/M.Ch degrees). 'Interested candidates should write to the Registrar along with complete bio-data specifying area of research interest.

(1) Biophysics (2) Biostatistics (3) Clinical Psychology (4) Epidemiology

(5) Health Education (6) Human Genetics (7) Neuroanaesthesia

(8) Neurochemistry (9) Neuroimaging and Interventional Radiology

(10) Neurology (11) Neurophysiology (12) Neurosurgery (13) Neurovirology

(14) Psychiatric Nursing (15) Psychiatric Social Work (16) Psychiatry

(17) Psychopharmacology (18) Speech Pathology & Audiology.

2. DM Degree in Neurology	6 Seats	*(1 for Foreign/Deputed)
3. DM in Neuroradiology	2 Seats	
4. M.Ch Degree in Neurosurgery	6 Seats	*(2 for Foreign/Deputed)
5. MD Degree in Psychiatry	14 Seats	
6. Diploma in Psychiatry (DPM)	6 Seats	(For Karnataka Domicile Only)

7.	Post Doctoral Fellowship in Neuropathology	2 Seats	(1 for Deputed)
8.	Post Doctoral Fellowship in Neuro-Anaesthesia	4 Seats	(2 for Foreign/Deputed)
9.	M.Phil in Clinical Psychology	15 Seats	(3 for Foreign/Deputed)
10.	M.Phil in Psychiatric Social Work	15 Seats	(3 for Foreign/Deputed)
11.	M.Phil in Neurophysiology	2 Seats	---
12.	M.Phil in Neurosciences	4 Seats -	---
13.	M.Phil in Biophysics	2 Seats	---
14.	M.Sc in Psychiatric Nursing	6 seats	---

Foreign Nationals are required to submit their applications through the Diplomatic Channel (through the Ministry of External Affairs) They shall also appear for a common Entrance Examination along with the other candidates.

Deputed/Sponsored candidates should submit their application through proper channel and they should also appear for entrance examination. The candidates applying under this category for M.Ch. in Neurosurgery and DM in Neurology should not be above 40 years of age as on 27h July 2003

*If suitable foreign/deputed/sponsored candidate/s are not available, these seats will be filled by general merit candidates.

A SEPARATE APPLICATION FORM SHOULD BE OBTAINED AND SUBMITTED FOR EACH COURSE

B. ELIGIBILITY FOR ADMISSION:

Minimal Qualification for admission to Sl. No. 1.1 (a to f).

(a) Ph .D in Clinical Psychology : MA/M.Sc degree in Psychology or two-year M.Phil degree in Clinical Psychology.
(b) Ph.D in Biophysics: M.Sc (physical/Life Sciences/MBBS/BE degree.
(c) Ph.D in Human Genetics: Masters degree in Zoology with cell biology/genetics as specialization. M.Sc in Biochemistry /Biotechnology /Genetics/Human Genetics/Applied Genetics/Molecular biology.
(d) Ph.D in Neuroimaging & Interventional Radiology:MBBS/MD or DNB in Radiodiagnosis/DM in Neurology/M.Ch in Neurosurgery/M.Sc/ BE/ B.Tech/B.Sc(Hon)/B.Sc Engg.
(e) Ph.D in Neuro-Physiology: Master's degree in Life Science or M.Phil or MBBS or BE degree.
(f) Ph.D in Speech pathology & Audiology: Masters degree in Speech & Hearing.

Minimal Qualification for admission to Sl. No.1.2 (1 to 18)

A Master's degree in any discipline related to Mental Health and Neuro Sciences/MBBS/BE/B.Tech/ B.Sc Engineering with a minimum of 55% marks in the aggregate to work full time for a minimum period of three years or M.Phil/DM in Neurology/M.Ch in Neurosurgery/MD/MS/DNB from a recognised University or from any other University recognised as equivalent thereto by NIMHANS to work full time for a minimum period of two years.

Common for Serial Nos. 1.1 and 1.2 Candidates with master's degree obtained through research and awarded on the basis of the evaluation of the thesis (from a University recognised by NIMHANS which do not award marks at the master's level) are also eligible to apply for Ph.D programme.

Minimal Qualifications for admission:

2. DM Degree in Neurology: (a) MBBS: The duration of the course will be for a period of five years. (b) MD/DNB in General Medicine or Paediatrics: The duration of the course will be for a period of three years.

3. DM in Neuro-Radiology: MD/DNB in Radio-diagnosis. The duration of the course will be for a period of three years.

4. M.Ch. in Neuro-surgery: (a) MBBS: The duration of the course will be for a period of five years. (b) MS/ DNB in General Surgery or Orthopaedics: The duration of the course will be for a period of three years.

5. MD in Psychiatry: (a) MBBS: The duration of the course will be for a period of three years. (b) Diploma in Psychiatry (DPM): The duration of the course will be for a period of two years.

6. Diploma in Psychiatry (DPM): MBBS. The duration of the course will be for a period of two years.

7. Post Doctoral Fellowship in Neuropathology: MD/DNB in Pathology. The duration of course will be for a period of one year.

8. Post Doctoral Fellowship in Neuro Anaesthesia: MD degree in Anaesthesia. The duration of course will be for a period of one year.

Minimum Qualifications for admission to M.Phil Courses from Sl.Nos. 9 to 13

M.Phil in Clinical Psychology: MA/M.Sc. degree in psychology.

M.Phil in Psychiatric Social Work: Master's Degree in Social Work.

M.Phil in Neurophysiology: Master's Degree in Life Sciences/ MBBS degree.

M.Phil in Neurosciences: Master's degree in Physical/Life/Behavioural Sciences or BE/B.Tech or MBBS.

M.Phil in Biophysics: M.Sc. in Physical Life Science/MBBS/BE Degree.

Minimum Qualifications for admission to M.Sc. in Psychiatric Nursing Course.(Sl.No.14)

(a) The course is open to those who are registered Nurses with B.Sc/B.Sc(Hons) in Nursing.

(b) Should have a minimum of two years of experience after obtaining B.Sc/B.Sc.(Hons) in Nursing degree in Hospital Nursing Education, Institution or Community Health setting.

A relaxation of 5% on the aggregate of marks obtained will be given for non-medical and Ph.D courses in respect of SC/ST candidates.

Common for all Courses:

The qualifying degrees for all the above mentioned courses should be from a recognised University or from any other University recognised as equivalent thereto by NIMHANS. For medical qualification the degree should be recognised by the Medical Council of India.

The Candidates should have obtained not less than 55% of Marks in the aggregate of the Master's degree for non-medical courses.

C. GUIDELINES:

In respect of Non-Medical Courses, candidates who have appeared for the qualifying examinations and are awaiting results, may also apply. However, such candidates will be eligible to appear in the final interview only if they produce the proof of having passed the examination in writing issued by the University as on the date of interview. In respect of Medical Courses, the candidates should have completed one year internship and registration with State Medical Council on or before 27/07/2003. MD/MS/DNB/ DPM candidates should have passed respective Degree/Diploma examination on or before 27/07/2003.

D. EMOLUMENTS:

Details regarding Emoluments/Stipend/Fellowship for the Medical and Non-Medical Courses are available in the Prospectus.

Foreign Nationals and Deputed candidates, from State Govt./Govt. of India, for courses are not eligible for any stipendiary benefits. The fee structure for Foreign Nationals will be charged in US Dollars and for deputed candidates in Indian Rupees.

RESERVATION OF SEATS:

1. Reservations are provided for SC/ST candidates as per Government of India directions, i.e., 22.5% (15% for SC and 7.5% for ST) of the total Post Graduate Medical and Non-Medical courses (except DM in Neurology, DM in Neuroradiology and M.Ch in Neurosurgery)
2. 5% of the total Post-graduate Medical seats (except DM in Neurology, DM in Neuroradiology and M.Ch in Neurosurgery) are reserved for Medical Graduates who are working uner the Family Welfare Programmes in the rural areas having less than 5000 populations for more than 2 years subject to submission of certificate from the Tahsildar.
3. Six seats in Diploma in Psychiatry and three seats in M.Phil in Clinical Psychology are reserved for domiciles of Karnataka.

NOTE : To claim that the candidates are residents/domiciles of Karnataka State Origin, they have to produce certificate from the Tahsildar to the effect that he/she or his/her parent/father/mother has been a resident of Karnataka State for a period of 10 years or has owned or possessed landed property or house in Karnataka State.

Preference will be given to candidates deputed by Central/State Governments.

INSTRUCTIONS:

1. Application forms and Prospectus can be obtained from the Director, NIMHANS on request by mentioning the course and by enclosing a Demand Draft/Indian Postal Order of the value of Rs.250/- (non-refundable) drawn in favour of Director, NIMHANS, Bangalore-560029, along with a self addressed stamped envelope (25cm x 18cm) of Rs. 20.00.
2. This advertisement appears in our website. Application forms can also be downloaded from this site and duly completed forms can be sent with a Demand Draft for Rs.250/- drawn as above.
3. Candidates may apply for more than one course provided they are eligible.
4. Application, complete in all respects, should be sent to the Director, NIMHANS, P.B.No.2900, Bangalore-560 029.

5.	Last date for issuing application	20, May 2003
6.	Receipt of completed application form at this Institute	26, May 2003
7.	Written test will be held in respect of each course separately in Bangalore on	27th July 2003.

8. Commencement of the Course : 1st September, 2003.
   (i) Last date for admission : 8, September
   (ii) With prior request : 15, September

NIMHANS Website : http://www.nimhans.kar.nic.in

For all enquiries e-mail : academic@nimhans.kar.nic.in

DR.D.NAGARAJA
DIRECTOR/VICE-CHANCELLOR

GUIDANCE CERTIFICATE FOR NURSERY EDUCATION

[GCNE]

(Continuation Education Program)

Directorate of Distance Education

RAJASTHAN VIDYAPEETH (DEEMED) UNIVERSITY

Pratap Nagar, Udaipur (313 003) Rajasthan

INVITES

Applications for Associated Study Centre

PROF. LOKESH BHATT ***Vice Chancellor***	**DR. (MRS.) DEVENDRA JOHAR** ***Registrar***

Education is the best friend. It always supports in the odd times of life. It is a fact that the learned persons are respected everywhere. But the fact, which should be considered with sincere attention, is that education starts from the very early age of 3-5 years. From this very tender age the child gets the basic concept of education and ideas how to be educated.

Till now in India there is no such board/council, which could affiliate the private school for running classes from Pre-Nursery till IVth standard; and play schools, and providing training, taking examinations and issuing certificates. The status of education in remote area, villages and even in small towns is very low. Efficient staff is not available and the management of the school have to compromise with the less efficient teaching staff.

In order to standardize the teaching, Directorate of Distance Education, Rajasthan Vidyapeeth Deemed University has provided an opportunity by means of distance learning to all the persons who are interested in getting themselves equipped with the methodologies and principles of teaching to Primary classes.

Guidance Certificate for Nursery Education is not an educational qualification rather it is an effort to train the teachers of Pre-Nursery - IV th standard and the desirous persons who are interested in knowing how systematically the children must be handled and taught at the tender age. Further this will also *support to the standardization of teachers who are already teaching these classes.*

The Directorate of Distance Education of **the University invites the proposals** from the schools who are running the classes from Pre-Nursery to IV th standard to become Associated Study Centres for this **guidance program.** This will enhance the teaching standard of their teachers.

Course Duration: 2 Semester

Eligibility: *10+2 from any recognized Board*

All correspondence in this regard must be addressed to **The Controller, Regional Office, Rajasthan Vidyapeeth (Deemed) University**, Near Sood Dharam Kanta, Prem Nagar, Bareilly-243005 (Uttar Pradesh). Telephone No. (0581)-2547985, 2544533, website: www.rvpcro.com.

NOTE:- All activities of the Associated Study Centre will be under direct control of University

"LOW COST EDUCATION FOR DESIROUS PEOPLE"

Dr. Pankaj Garg
Controller (RO)

TECHNICAL TEACHERS' TRAINING INSTITUTE
SECTOR 26, CHANDIGARH
(An Autonomous Body of the Central Government,MHRD)
(Web site: www.tttichd.ac.in)

ADVERTISEMENT NUMBER 87-2/2003

Applications are invited by the Principal on the prescribed form for the undermentioned posts :

(A) Professors (Pay Scale Rs.16400-450-20900-500-22400)

i) Computer Science - one post (Permanent)
ii) Educational Television Centre - one post (Permanent)
iii) Electrical Engineering- one post (Temporary)
iv) Mechanical Engineering-one post (Permanent)
v) Information Management & Coordination Unit - one post (Permanent)
vi) Curriculum Development Centre-one post(Permanent)
vii) Media Centre-one post(Permanent)
viii) Electronics & Commn.Engg.- one post(temporary)
ix) Educational Management-one post(Permanent)
x) Applied Science-one Post(Permanent)
xi) Rural Development- one post(Permanent)

(B) Assistant Professors (Pay Scale Rs.12000-420-18300)

xii) Electronics & Communication Engg.- one post(Permanent)
xiii) Mechanical Engineering-one post(Permanent)
xiv) Electrical Engineering-one post(Permanent)
xv) Rural Development-one post(Permanent)

(C) Lecturers(Pay Scale Rs.8000-275-13500)

xvi) Computer Science-One post reserved for OBC (Permanent)
xvii) Mechanical Engineering- one post(Permanent)
xviii) Electronics & Commn.Engg. - one post(Temporary)
xix) Media Centre-one post(Temporary)
xx) Entrepreneurship Dev.& Industrial Coordination -one post reserved for OBC(Temporary)
xxi) Junior System Programmer -one post (Temporary)

Number of posts as mentioned above may increase or decrease.

Temporary vacancies are against leave /lien and the incumbents will have to pass through a fresh recruitment process for these posts, whenever, required for regular appointment.

The Pay and allowances are at par with the Central Government civilian employees.

Application form and detailed information brouchure containing qualifications,experience etc can be had from the SENIOR ADMINISTRATIVE OFFICER of the Institute personally or by sending self addressed Rs.10/- stamped envelope (28cms x 12 cms)indicating the advertisement number and name of the post at the top of the envelope separately for each post to be applied for. Applications complete in all respects alongwith fee (Non Refundable) of Rs.100/- (General /OBC categories) and Rs.50/-(SC/ST/PH categories) in the shape of Indian Postal Order/Demand Draft payable to **Principal,TTTI,Sector 26, Chandigarh** should reach the Principal by **21st April, 2003**. Applications received after the due date or on the unprescribed form or without the prescribed fee will be summarily rejected. Possessing the minimum qualifications & experience prescribed for the posts does not automatically make a candidate eligible for the interview if better qualified candidates are available. The summoning of a candidate for test/interview does not guarantee employment offer.

The candidates who have already applied against Institute advertisement No 83-8/2002 for the posts mentioned at serial no (i) to (viii), (xii) to (xiv), (xvi) to (xviii) and (xxi) need **not** to apply again.

Phone : 0172-792369
Fax : 0172-791366

Dr. O.P Bajpai
PRINCIPAL

TERI SCHOOL OF ADVANCED STUDIES

ADMISSIONS 2003-2004

The TERI School of Advanced Studies, a deemed university under Section 3 of UGC Act, 1956, announces the following opportunities for advanced research on Full-time/Part-time basis leading to Ph.D. degree.

1. **Faculty of Applied Sciences**

   Plant Biotechnology, Microbial Biotechnology, Natural Resource Management, Energy and Environment, and Renewable Energy

2. **Faculty of Policy and Planning**

   Energy Analysis and Planning, Energy Efficiency Management, Resource and Development Economics, Regulatory Theory and Practice, and Utility Economics.

Qualifications

Faculty of Applied Sciences

a. M.Sc. or M.Phil. in a relevant field or equivalent

b. Bachelor's degree in engineering or equivalent

Faculty of Policy and Planning

a. MA or M.Phil. in economics, statistics, mathematics, operational research or any allied field

b. Master's degree in science or bachelor's degree in engineering or technology

Candidates having secured a first class or an equivalent grade and who have qualified for CSIR/UGC-NET fellowship will be preferred for full time programme. Application forms and brochure can be obtained from the Registrar, TERI School of Advanced Studies, Darbari Seth Block, Habitat Place, Lodhi Road, New Delhi - 110 003 . Completed forms along with the application fee of Rs 500/- must reach the TERI School of Advanced Studies no later than **07 May, 2003.** Shortlisted candidates will be called for written test/interview on **11 June, 2003.**

Forms along with the brochure for Full-time/Part-time programmes can also be down loaded from our web site www.terischool.ac.in.

CENTRAL INSTITUTE OF FISHERIES EDUCATION

(Deemed University : ICAR)
Fisheries University Road
Versova, Mumbai-400 061

ICAR

ADMISSION NOTICE 2003-2006

All India Competitive Examination for Admission to Ph.D. Programme for the academic session 2003-2006 commencing from 01.10.2003 will be held on 20th July 2003(Sunday) at Mumbai.

SLNo.	**Name of the Discipline**	**No. of seats**	**Reservations**
1	Fisheries Resource Management	3	-
2	Inland Aquaculture	3	1(SC/ST) *
3	Mariculture	2	1(ST/SC)*
4	Post Harvest Technology	3	1(SC/ST)*
5	Fish Genetics	1	-
6	Fishery Biotechnology	1	-
7	Fish Pathology & Microbiology	1	-
8	Fish Nutrition & Biochemistry	1	-
	Total	15	3(2SC,1 ST)*

N.B.: The candidate should opt any one of the disciplines and he/she is required to appear for the entrance test in the same discipline. Option once exercised cannot be changed under any condition and separate entrance examination will be held for each discipline.

* Seats are reserved for first category. In case suitable candidate is not found from that category then seat will be filled through the other reserved category.

ELIGIBILITY QUALIFICATION

M.F.Sc. (4 years B.F.Sc. + 2 years P.G./ 3 years B.Sc.+ 3 years P.G. pattern/ M.Sc. offered at CIFE (upto 1995) (or) D.F.Sc. provided candidate holds a Bachelor's degree in biological science and has two years of experience in fisheries development work after obtaining D.F.Sc. In case of sponsored candidates, those holding M.Sc. in Fish and Fisheries and related disciplines with at least two years experience in fisheries development work are also eligible to apply.

AGE LIMIT : The minimum age for admission shall be 22 years as on 30th September 2003. No relaxation in age limit is permitted.

FELLOWSHIP:

There is a provision for Awarding institutional fellowship to selected candidates @ Rs.4400/- per month.

Prescribed Application form along with Information Bulletin for the Entrance Examination can be obtained by Post till 26th May 2003 from the office of the Sr.A.O. / Registrar, Central Institute of Fisheries Education, Fisheries University Road, Seven Bungalows, Andheri(W) , Versova, Mumbai – 400 061 by enclosing a crossed Demand Draft of Rs.50/- drawn in favour of "ICAR UNIT/CIFE, MUMBAI, STATE BANK OF INDIA, VERSOVA BRANCH, MUMBAI-400 061". It may also be obtained in person from CIFE till 31st May 2003 by submitting a crossed Demand Draft for Rs.35/-. Request for form through Cheque /Postal Order/ VPP will not be entertained. The admit-card for the Entrance Examination to the eligible candidates will be sent by post. Any postal delay in the Admit Card reaching the candidates will not be the responsibility of CIFE. The last date of receipt of filled in Application Form is 31st May 2003.

Sr. A.O./Registrar

GRAMS:NIMHANS **Ph: 6995000 / 6995015** **FAX: 0091-080-6564830 / 6562121**

NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES

(DEEMED UNIVERSITY)

P.B.No.2900, Hosur Road, Bangalore-560 029, INDIA

NIMH:ACA:DPN:DNN:DCNT:CNT:ADMN:2003-2004 **Date: 01-04-2003**

ADMISSION NOTICE

Applications in prescribed form are invited from eligible candidates/employees, for admission to the following courses for the Academic Year 2003-2004 commencing from 1st September' 2003.

A. DIPLOMA COURSES IN NURSING

DURATION: One year.

1. Diploma in Psychiatric Nursing (DPN) - 30 Seats
2. Diploma in Neurological and Neurosurgical Nursing (DNN) - 06 Seats

(Two seats are reserved for Military Nursing Officers)

Separate application forms should be obtained and submitted for each course

ELIGIBILITY FOR ADMISSION

i) Should possess 'A' Grade Certificate in General Nursing, recognised by Indian Nursing Council

ii) Should be a registered nurse in the State Nursing Council, with TWO years experience

B. DIPLOMA IN CLINICAL NEUROPHYSIOLOGY TECHNOLOGY (DCNT)

DURATION: One year

Number of Seats - 4 Nos.

Preference will be given to deputed candidates from State/Central Govt/Public Undertaking/Private Institutions.

ELIGIBILITY FOR ADMISSION:

Minimum Qualification: B.Sc with Physics/Electronics/Computer Sciences with minimum II Class in the qualifying examination.

OR

Diploma in Electronic/Electrical/Instrumentation

OR

Diploma in Computers (approved by Board of Technical Education)

OR

PUC with 3 years experience as EEG Technician,

C. CERTIFICATE COURSE IN NEUROIMAGING & TECHNOLOGY

DURATION: One Year

Number of Seats: 2 Seats (Deputed candidates only)

ELIGIBILITY FOR ADMISSION:

Diploma in Radiographic Technology from vocational Board of Government of Karnataka or equivalent qualification.

OR

Bachelors degree in Radiation technology from any recognised University or equivalent qualification.

Common for all Courses:

1) Reservation:
15% of seats are reserved for SC, 7.5% of seats are reserved for ST.
2) Details regarding stipend are available in the prospectus.
3) Deputed/Sponsored candidates are not entitled for stipend.

GUIDELINES:

1. Application form and prospectus can be obtained from the Director, NIMHANS by enclosing an **Indian Postal Order** of value of **Rs.100/-drawn in favour of the Director, NIMHANS, Bangalore,** along with a self addressed stamped envelope (26 cm x 10 cm) of Rs. 20.00
2. Applications completed in all respects should be sent to the Director, National Institute of Mental Health and Neuro Sciences, P.B.No.2900, Bangalore-560 029
3. Last date for issuing application 20, May 2003
4. Receipt of completed application form at this Institute 26, May 2003
5. Commencement of the Course : 1, September
   (i) Last date for admission : 8, September
   (ii) With prior request : 15, September

For all enquiries e-mail : academic@nimhans.kar.nic.in

(DR.D.NAGARAJA)
DIRECTOR/VICE-CHANCELLOR

TATA INSTITUTE OF SOCIAL SCIENCES
(A Deemed University)
Post Box No. 8313, Deonar, Mumbai - 400 088

No.Admn/Advt/2003 27th March 2003

TISS invites applications for filling up two posts of **PROFESSOR** in the **DEPARTMENT OF RESEARCH METHODOLOGY** and one post of **READER** in the **DEPARTMENT OF URBAN AND RURAL COMMUNITY DEVELOPMENT** from candidates possessing qualifications and experience as per the stipulations of the University Grants Commission, to reach the Assistant Registrar (Personnel), TISS, Deonar, Mumbai 400 088, by 30th April 2003.

The candidates may apply on the form downloadable at **http://www.tiss.edu** together with the requisite fee of Rs.200/- for the post of Professor and Rs.150/- for the post of Reader by Demand Draft. The prescribed application form, along with the Detailed Information Sheet can also be obtained from the Assistant Registrar (Personnel) on payment of requisite fee by cash at the Cash Counter, TISS, Mumbai, or by sending a Demand Draft drawn in favour of **Tata Institute of Social Sciences, Mumbai** (for SC/ST candidates, application forms will be supplied free of cost on production of valid caste certificate), accompanied by a self-addressed stamped envelope (worth Rs.25/-) of size 30 cm x 12 cm.

Dr. S.K. Bandyopadhyay
Registrar

CENTRAL INSTITUTE OF ENGLISH AND FOREIGN LANGUAGES

HYDERABAD - 500 007

B.Ed. (ENGLISH) PROGRAMME

(Recognised by NCTE and approved by UGC)

ADMISSION NOTICE 21/03

The CIEFL is starting *self-financing* **B.Ed. (English) Programme** in June 2003.

Duration : One academic year

Eligibility : BA with English as an optional subject **OR MA** in English with a minimum of 50% at the qualifying examination.

Candidates admitted should produce the results of the qualifying examination on the day of admission. No provisional admission will be given.

Selection is on the basis of merit at All India Entrance Test.

No.of seats: 60 (Sixty) Reservations as per UGC/GOI guidelines.

Fee: Rs.10,000/- plus examination fee. (Since this is a self-financing course there will be no fee concessions for any reserved category).

Hostel accommodation will not be provided to B.Ed. students in CIEFL hostels.

Date of Entrance Test - 11 May 2003

Highlights:

- In addition to other usual course components, both the methodology courses will be in teaching of English.
- Unique programme in the country.
- Expertise of CIEFL English Language Teaching specialists and specialised library facilities.

How to apply ?

The brochure and the prescribed application form including the Entrance Test design can be had from Editor, CIEFL, Hyderabad 500 007 by sending a DD for Rs.300/- drawn in favour of "Programme Coordinator, B.Ed. (English), CIEFL".

An Entrance Test will be conducted in the following centres subject to a minimum number of 25 candidates in a Centre.

Hyderabad, Kochi, Chennai, Bangalore, Mumbai, Bhubaneshwar, Kolkata, Shillong, Lucknow, New Delhi

Last date for receipt of filled in applications : 21 April 2003.

(G. VENKATESHWER RAO)
REGISTRAR

March 28, 2003

POSTGRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH, CHANDIGARH

COLLEGE OF NURSING UPGRADED AS

NATIONAL INSTITUTE OF NURSING EDUCATION

ADMISSION NOTICE

LAST DATE FOR RECEIPT OF APPLICATION: 7.5.2003 UPTO 4.00 P.M.

Applications on prescribed form are invited for the following courses at National Institute of Nursing Education, PGIMER, Chandigarh for the session starting from 16.07.2003. INCOMPLETE APPLICATIONS WILL NOT BE ENTERTAINED AND NO CORRESPONDENCE WILL BE MADE IN THIS REGARD.

1. **B. Sc Nursing (4 years) (only for female candidates) Seats: 50**
   Qualifications: (a) 10+2 with Physics, Chemistry, Biology and English or any other equivalent examination recognized by Panjab University. Candidates appearing in April-May of the year can also apply, (b) Minimum age 17 years and maximum 25 years as on 31st December of the year.
2. **B. Sc Nursing (Post-Basic) (2 years) Seats: 40**
   Qualifications: (a) 10+2 or any other equivalent examination recognized by **Panjab University** (b) **Three years experience** by 30th June of the year in bedside or Public Health Nursing from a Hospital recognized by the State Govt. / Govt. of India (c) R.N. and R.M. as approved by INC or substitute registration in case of male candidates
3. **M. Sc. Nursing (2 years) Seats: 8**
   Specialities: (i) Medical Surgical (ii) Community Health
   Qualifications: (a) B.Sc. Nursing (Post-Basic) / B.Sc. Nursing **degree of the** Panjab University or **any other** equivalent **degree** recognized by Panjab University with 50% marks in aggregate, (b) Two years experience by 30th June of the year in bedside nursing or Public Health Nursing or Teaching in Nursing from Institutions recognized by State Govt. / Govt. of India (c) R.N. and R.M. as approved by INC or substitute registration in case of male candidates.

(The details of seats reserved for SC/ST/Sponsored candidates are given in the prospectus)

No. of seats may vary in a subject without prior notice.

GENERAL INFORMATION

Application forms alongwith prospectus (brochure of information) are available from the office of the undersigned either personally on payment of Rs. 500/- for General Category and Rs. 400/- for SC/ST (Prospectus / form purchased for SC/ST category shall not be entertained in General Category) from 10.00 A.M. to 11.30 A.M. and from 2.30 P.M. to 4.00 P.M. on all working days except Saturday (on Saturday form will be available from 10.00 A.M. to 11.30A.M.) or by post for which the request must be accompanies with a self addressed thick envelope of (24 cms x 15 cms) bearing postage stamps of Rs. 40/- and Bank Draft for Rs. 500/- and Rs. 400/- for General and SC/ST (indicating category i.e. General or SC/ST) respectively drawn in favour of **The Director, PGI, Chandigarh.**

NOTE:

1. It is in the interest of the candidate to send the applications through speed/registered post.
2. No request for the supply of the forms by post will be entertained after 30.04.2003

E-mail :medinst@pgi.chd.nic.in Web: http://pgimer.nic.in PRINCIPAL

THE INDIAN SCIENCE CONGRESS ASSOCIATION

14, Dr. Biresh Guha Street, Kolkata-700 017

ANNOUNCEMENT FOR AWARDS : 2003-2004

1. **Professor Hira Lal Chakravarty Award:** Applications in prescribed forms are invited from Indian Scientists, below 40 years of age as on December 31, 2002 with Ph.D. degree from any University or Institution in India, having significant contributions in any branch of **Plant Sciences**. The award is given on original independent published work carried out in India within three years prior to the award. The award carries a cash amount of Rs. 4,000/- and a certificate. Awardee will be required to deliver a lecture on the topic of his her specialisation during Annual Session of the Indian Science Congress in the Section of Plant Sciences. Last date of submitting application is **July 15, 2003**.

2. **Pran Vohra Award:** Applications in prescribed forms are invited from Indian Scientists, below 35 years of age as on December 31, 2002 with Ph. D. degree from any University or Institution in India, having significant contributions in any branch of **Agriculture and Forestry Sciences**. The award is given on original independent published work carried out in India within three years prior to the award. The award carries a cash amount of Rs. 10,000/- and a certificate. Awardee will be required to deliver a lecture on the topic of his/her specialisation of Agriculture and Forestry Sciences. Last date of submitting application is **July 15, 2003.**

For proforma of application forms and necessary information, please write to the **General Secretary, The Indian Science Congress Association, 14, Dr. Biresh Guha Street, Kolkata-700 017.**

Telephone Nos. (033)22402551/22474530
Fax No. 91-33-22402551
E-mail : isca.assocn@gems.vsnl.net.in / iscacal@vsnl.net

INVITATION TO AUTHORS

Authors are invited to contribute articles on contemporary issues in higher education in general and Indian higher education in particular for publication in the 'University News'. The articles may be sent as an e-mail attachment sent in MS WORD to : *aiu@del2.vsnl.net.in* or printed /typed copy in duplicate along with floppy by post at the following address :

The Editor
University News
Association of Indian Universities
AIU House, 16 Kotla Marg
New Delhi 110 002

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CLASSIFIED ADVERTISEMENTS

ST. PIUS X COLLEGE
Rajapuram P.O., Kasargod, Kerala - 671532

VACANCY NOTIFICATION

Applications are invited for the following posts

• Principal(Reserved for Knanaya Catholic Community)		
• Lecturer in Microbiology	-1	permanent vacancy
• Lecturer in Physics	-1	permanent vacancy
	-1	Leave vacancy
• Lecturer in Computer Science	-1	Leave vacancy
• Lecturer in BBS	- 4	permanent vacancies
• IV grade Librarian	- 1	permanent vacancy
• Last Grade Staff	- 1	permanent vacancy

Age, qualifications etc. will be as per the norms stipulated by the U.G.C.,Govt. of Kerala and Kannur University. The application forms can be had from the College office on payment of Rs.500 for teaching and Rs.250 for non-teaching catogory. The last date for receiving the filled in application will be the **30th day** from the date of this notification.

MANAGER
St. Pius X College, Rajapuram

The Council of Education, Kolhapur
D.R.K. COLLEGE OF COMMERCE
Kolhapur- 416 002
(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following posts.

Sr No	Designation	Total Posts	Open Post	Reserved Post
A)	**Lecturer**			
1.	Economics	1FT	--	@1ST (III)*
2.	English	1 FT	--	@ 1ST (I)

Note: @ indicates that the posts are advertised under Special Recruitment Drive.

1. Roman figures in the bracket show the number of times the posts have been advertised.
2. * indicates only ST candidates should apply.
3. If reserved candidates are not available then other candidates will be temporarily appointed for one academic year only. Such appointed candidates will have no claim or legal right on the said post, if reserved candidates become available during the next year/s.
4. The post advertised for II times or more, a relaxation of 5% will be provided from 55% to 50% of the marks at the Master's level for SC/ST category, if candidates with 55% of the marks are not available.
5. Reserved candidates who are domiciled outside of Maharashtra State will be treated as Open Category candidates.
6. ST candidates are advised to send a copy of their application to the Deputy Registrar, Special Cell, Shivaji University, Kolhapur-416 004.
7. Educational Qualifications, Pay Scales and Service Conditions will be as per rules of Shivaji University, Kolhapur. The details regarding educational qualifications will be supplied to the candidates on request.
8. Those who are already in service should apply through proper channel.
9. Incomplete application will not be entertained.

10. Apply giving full particulars **within 15 days** from the date of publication of this advertisement to the undersigned.

Place: Kolhapur -I/C PRINCIPAL
Date :26-03-03

Bharat Shikshan Prasarak Mandal's

MAULI MAHAVIDYALAYA WADALA

Tal North-Solapur, Dist Solapur

(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following posts.

Sr No	Designation	Total Posts	Open Posts	Reserved Posts
A)	Principal	1	1	—
B)	Director of Physical Education	1	1	---
C)	Librarian	1	1	
D)	Lecturer			—
1)	English	2FT	1	1 SC (I)
		1CHB	1	—
2)	Marathi	2FT	1	1 SC (I)
3)	Hindi	2FT	1	1 SC (I)
4)	History	2FT	1	1 SC (I)
5)	Sociology	1FT	1	---
6)	Economics	1 FT	1	---
7)	Political Science	1FT	1	
8)	Geography	1FT	1	

Note:

1. For the post of Principal, PhD. or equivalent published work and a minimum experience of 10 years (for Principal of Reader's grade) or 15 years (for Principal of Professor's grade) of teaching/ research in Universities/ Colleges and other Institutions of Higher Education is essential.
2. Two open posts & one reserved post of Lecturer will be filled in from amongst female candidates and one post will be filled. One reserved post of Lecturer will be filled in from amongst female candidates. If female candidates are not available the posts will be filled in from male candidates.
3. Open female candidates belonging to "Creamy Layer" shall not be held eligible for the benefits of women reservations as specified in G.R. Women and Child Welfare Department Misc-1086 /Pr.Kr.30/ Ka.2 dated 1.8.1997.
4. Educational Qualifications, Pay Scales and Service Conditions will be as per rules of Shivaji University, Kolhapur. The details regarding educational qualifications will be-supplied to the candidates on request.
5. Those who are already in service should apply through proper channel.

---

6. Incomplete application will not be entertained.
7. Apply giving full particulars **within a month** from the date of publication of this advertisement to the undersigned.

Place: CHAIRMAN
Date:

D.M.K.G. SCIENCE COLLEGE MANGALWEDHA

Dist. Solapur- 413305

(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following posts:

Sr No	Designation	Total Post	Reserved Post
A)	**Lecturer**		
1.	English	2 FT	@ 1 SC (I) @ 1 ST (I)
2.	Hindi	1 FT	@ 1 SC (I)
3.	Geography	2 FT	@ 1 SC (I) @ 1 ST (I)
4.	Marathi	1 FT	@ 1 SC (I)

Note: @ indicates that posts are advertised under Special Recruitment Drive

1. Roman figures in the bracket show the number of times the post have been advertised.
2. If particular reserved candidates are not available then other candidates will be temporarily appointed for one academic year only. Such appointed candidates will have no claim or legal rights on the said posts, if reserved candidates become available during the next year's.
3. *Reserved candidates who are domiciled outside of Maharashtra State will be treated as Open Category candidates.*
4. Reserved candidates are advised to send a copy of their application to the Deputy Registrar, Special Cell, Shivaji University, Kolhapur- 416 004.
5. Following post will be filled in from amongst female candidates

Designation	Reserved Post
Lecturer	01

If female candidates are not available the posts will be filled in from male candidates of respective categories.

6. Educational Qualifications, Pay Scales and Service Conditions will be as per rules of Shivaji University, Kolhapur. The details regarding educational qualifications will be supplied to the candidates on request.
7. *Those who are already in service should* apply through proper channel.
8. Incomplete application will not be entertained.

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9. Apply giving full particulars **within 15 days** from the date of publication of this advertisement to the undersigned.

Place: Mangalwedha
Date : 30/03/2003 ADMINISTRATOR

D.M.K.G. SCIENCE COLLEGE MANGALWEDHA

Dist. Solapur- 413305

(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following posts:

Sr No	Designation	Total Post	Open Post
1.	Principal	1	1

Note:

1. Ph.D. or equivalent published work and a minimum experience of 10 years (for Principal of Reader's grade) or 15 years (for Principal of Professor's grade) of teaching/Research in Universities/ Colleges and other Institution of Higher Education is essential
2. Educational Qualifications, Pay Scales and Service Conditions will be as per rules of Shivaji University, Kolhapur
3. Those who are already in service should apply through proper channel
4. Incomplete application will not be entertained
5. Apply giving full particulars **within a month** from the date of publication of this advertisement to the undersigned.

Place Mangalwedha
Date : 30/03/2003 ADMINISTRATOR

Corrigendum

Sangola Taluka Shetkari Shikshan Prasarak Mandal, Sangola's

VIDNYAN MAHAVIDYALAYA

Sangola-413 307

(Affiliated to Shivaji University, Kolhapur)

Reference the advertisement of the above College published in this journal in its issue dated **March 17 - 23, 2003 on pages 39 & 40.**

Amend to read Sl.No. 10 as follows :-

Apply giving full particulars **within a month** from the date of publication of the advertisement to the undersigned.

PRINCIPAL SECRETARY

PERIYAR UNIVERSITY

Salem - 636 011.

Advertisement No.4/2003

Applications (8 copies) are invited for appointment to the following posts from eligible candidates.

S.No.	Name of the Post and Scale of Pay	No. of Posts	Qualifications
1	**Assistant Director of Physical Education** **8000-275-13500**	1	**I)** Master's degree in Physical Education (two years course) or Master's degree in Sports or an equivalent degree with atleast 55% of the marks or its equivalent grade of B in the UGC 7 point scale plus a consistently good academic record. **II)** Record of having represented the University / College at the inter-university / Inter-collegiate competitions or the State in national championships. **III)** Passed the Physical fitness test **Iv)** Qualifying in the national test conducted for the purpose by the UGC or any other agency approved by UGC.
2	**PA to Vice-Chancellor** **5500-175-9000**	1	**1)** *Any Master's Degree (55% or B Grade)* **2)** A computer-related PG Diploma **3)** Short hand - Tamil and English - Higher Grade **4)** Administrative experience not less than five years. **Desirable** : Experience of working in Computer based technologies in Visual Basic, Oracle and Web Technologies
3	**Public Relations Officer** **8000-275-13500**	1	**1)** Post Graduate degree in Arts / Science with not less than 55% marks. **2)** Ability to write and communicate to the mass media / reputed journals / magazines **3)** Experience related to Public Relations and editing of Journals / Books / Magazines **Desirable : 1)** A doctorate in the above discipline with computer knowledge **2)** Two years of experience in Teaching / Public relations in a College / University. Age: Not exceeding 35 years
4	**Section Officer** **6500-200-10500**	3	**1)** Graduate (55% or B Grade) **2)** A pass in Account Test for Sub-Ordinate Officer Part-I with not less than 5 years service in the cadre of Assistant. **3)** Type writing higher grade in English and Tamil 4) Diploma in Computer Applications.
5	**Junior Assistant** **3200-85-4900**	6	**1)** B.Sc. (Computer Science) or B.C.A. or PG Diploma in Computer Applications. **2)** Typewriting higher grade in Tamil and English **3)** Knowledge of Tamil to the extent of carrying official correspondences and drafting reports **4)** Knowledge in Visual Basic, Oracle & Web Technology with 2 years experience
6	**Plumber** **3050-75- 3950-80-4590**	1	**1)** Diploma in relevant subject. **2)** Experience as plumber for not less than two years.
7	**Electrician** **3050-75-3950-80-4590**	1	**1)** Diploma in relevant subject **2)** Experience as Electrician for not less than two years (or) **1)** By transfer from any other category possessing the required qualifications with two years experience as electrician **Age** : Not exceeding 32 years.

Those who are appointed in the above posts are eligible for contributory Provident Fund Scheme and not eligible for Pension benefits.

S.No	Posts	Scale of Pay	No. of Posts	Vacancy *
1	**Assistant Registrar**	**8000-275-13500**	1	On deputation basis initially for a period of one year likely to be extended thereafter. **Age** : Less than 55 years
2	**Lecturer**	**8000-275-13500**	1	
3	**Lecturer in Food Science and Nutrition Department**	**8000-275-13500**	1	
4	**PA to Vice-Chancellor**	**5500-175-9000**	1	

(*) The terms and conditions of deputation are as per Tamilnadu Government rules. Their applications should be sent through proper channel.

APPLICATION FEE :

Rs 100/- For those applying on deputation basis at free of cost.

HOW TO APPLY :

Application form can be had from the Registrar, Periyar University, Salem - 636 011 in person or by post on requisition with a Demand Draft drawn in favour of 'The Registrar, Periyar University, Salem - 636 011', payable at Salem for Rs.100/- (Rs.50/- for SC/ST candidates) together with a self-addressed envelope of 25 cms x 12 cms size with stamp affixed for Rs.30/-. The SC/ST candidates should enclose an attested copy of Community Certificate. **The last date for submission of filled in application form is upto 5.00 pm on 23.4.2003**

Note :

(1) The Syndicate reserves the right to fill or not to fill the posts

(2) Applications should be made only in the format prescribed by the University. Separate application should be submitted for each post

(3) Applications received after the last date will be summarily rejected

(4) Communal rotation as per the *instructions* issued by the Government of Tamilnadu and the District Employment Office, Salem will be followed.

REGISTRAR

Posted at NDPSO on Tuesday/Wednesday every week
UNIVERSITY NEWS 41 (14) April 07-13, 2003 Regd. No. R.N. 7180/63 Postal Regd. No. DL-11106/2003

NITIE

NITIE Announces Admissions

P. G. DIPLOMA IN INDUSTRIAL ENGINEERING
AND FELLOW PROGRAMME

THE INSTITUTE: NITIE was established in 1963 as a National Institute by the Govt. Of India with assistance through ILO.

1) TWO YEAR P. G. DIPLOMA IN INDUSTRIAL ENGINEERING (PGDIE) – 33rd BATCH (2003-2005)

NITIE has an unique programme in INDUSTRIAL ENGINEERING. The role of Industrial Engineer is that of an organization consultant for both manufacturing and non-manufacturing sectors. The course covers various subjects like Operations, Logistics, BPR, ERP and Software Engineering.

ELIGIBILITY: Engineering/Technology graduates in any branch with minimum of 85 percentile in GATE. Admission is based on Group Discussion and Interview with appropriate weightage to GATE score. Reservation for SC/ST & Handicapped candidates is as per Govt. rules. Selection for Industry Sponsored candidates with First Class Degree in Engineering/Technology (with 2 years industry experience) is through personal interview only.

2) FELLOW (DOCTORAL) PROGRAMME (FP)

ELIGIBILITY : First Class Master's Degree in Engineering/Technology/Science/Business Management/Commerce/Social Sciences/ Humanities (Full time Course). Selection will be on the basis of Academic Qualification & Experience, Seminar presentation on selected area of Research & Interview. Direct candidates will get GOI Scholarship as per rules. External candidate has to stay in the campus for a continous period of one year for course work. For Industry sponsored candidates, minimum of two years working experience at Executive level is required.

AREAS : Organisation Behaviour, Marketing, BPR, TQM, TPM, Personnel Management, Ergonomics, Reliability Management, Economics, Operations Research, Information Technology, Production Management, Finance & Accounting and Environmental Management.

HOW TO APPLY

Prospectus & Application for PGDIE/FP can be obtained from ***ASSISTANT REGISTRAR (Academic) NITIE, Vihar Lake, PO NITIE, Mumbai - 400087*** enclosing two self addressed stickers and a DD for Rs. 900/- (Rs. 450/- in case of SC/ST candidates with caste certificate) drawn in favour of ***"NITIE, MUMBAI-400087"***. Filled up ***ONLINE APPLICATION FORMS*** are to be sent along with DD.

IMPORTANT DATES

ISSUE OF BROCHURES :	**24th March 2003 onwards**	**LAST DATE FOR RECEIPT OF COMPLETED APPLICATIONS :**	**21st April 2003 (for PGDIE) & 10th May 2003 (for FP)**

***TEL.: (022) 2857 33 71, FAX: (022) 2857 32 51*, Website: www.nitie.edu,**
e-mail: ieadmissions@nitie.edu
NITIE will not be responsible for any postal delay.

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